



Defence
Safety Authority

DSA 03.OME Part 5: Defence Code of Practice (DCOP) 502

Military Laser System Safety Assessment for Service
and Training Use



Version Record

Version 1.2

Version Date: August 2024.

Version changes: see amendment table.

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Preface

Requests for Change

1. Proposed changes, recommendations, or amendments to DOSR Regulations and Guidance can be submitted to the DOSR Regulations and Publications Team:

Email Address: dsa-dosr-prg@mod.gov.uk

Postal Address: Juniper #5004, Level 1, Wing 4, Abbey Wood North, Bristol, BS34 8QW

2. Any post and grammar change proposals can be approved or rejected by the DOSR without involvement of the associated Working Group.

3. Technical change proposals should be submitted to the associated Working Group for review and approval or rejection.

4. When incorporating changes, care is to be taken to maintain coherence across regulations.

5. Changes effecting Risk to Life will be published immediately. Other changes will be incorporated as part of routine reviews.

Review Process

6. The DOSR team will ensure OME Regulations remain fit for purpose by conducting regular reviews through the DOSR Governance Committees, consulting with MOD Stakeholders and other Defence Regulators as necessary on interfaces and where there may be overlaps of responsibility.

Further Advice and Feedback

7. For further information about any aspect of this document, or questions not answered within the subsequent sections, or to provide feedback on the content, contact the DOSR Regulations and Publications Team.

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Amendment Record

No	Section	Para	Amendment Summary	Agreed	Date
1.0	all	all	Document created.	Regs ATL	Jul 2021
1.1	Reg 502	4	Addition of Para 4.	MLST/DOSR	Dec 2021
1.1	DCOP 502	9.a-g	Addition of Para 9.a-g.	MLST/DOSR	Dec 2021
1.2	all	all	Reformatted in line with DSA accessibility requirements.	Regs ATL	Aug 2024

DSA 02.OME Regulation 502

Military Laser System Safety Assessment For Service And Training Use

1. All laser systems shall have a Military Laser System Safety Assessment Certificate (MLSSAC) before they can be used in training and/or in service unless exemption criteria are met.
2. If required, laser systems shall have a valid Military Laser Range Safety Clearance Certificate (MLRSCC) if conducting a standard activity.
3. All laser systems shall have a valid Military Laser Trial Safety Clearance Certificate (MLTSCC) if conducting a unique activity (such as a trial).
4. A unit Laser Safety Officer (LSO) is to be appointed by the Commanding Officer (CO) or Head of Establishment (HoE) to co-ordinate laser safety in any ship, unit, station, or establishment where Class 3R, 3B or 4 lasers are in use.

DSA 03.OME DCOP 502

Objectives/Scope

5. This DCOP has been created to give guidance on how to follow the regulations. This DCOP will cover the certification for use of military lasers on MOD Establishments including ranges. This will ensure that all 1st, 2nd, and 3rd parties are protected from harmful levels of laser radiation. This will ensure that training and trial activities can be conducted whilst adhering to all legal requirements, both civilian and military.
6. Deviation from these safety requirements could have safety implications to personnel, platforms, and MoD assets.
7. There are several types of certification depending on what type of activity is being carried out.

Legislation

8. There are several UK and European Union (EU) laws and regulations dealing with health, safety and environmental issues which have an impact on the management of laser safety:
 - a. Control of Artificial Optical Radiation at Work (CAOR) 2010
 - b. Directive 2006/25/EC – Artificial Optical Radiation
 - c. Laser Misuse (Vehicle) Act (2018)
 - d. The Control of Substances Hazardous to Health (COSHH)

Laser Safety Officer (LSO)

9. The LSO duties include providing competent technical advice, based upon this and other relevant documentation, on all aspects of laser safety. The LSO should be the first point of contact on all laser safety issues within their establishment. The duties of an LSO will vary depending on the needs of the establishment. The duties of an LSO will be laid down by the Commanding Officer (CO) or Head of Establishment (HoE) and may include the following:

- a. Providing the CO/HoE with advice on laser safety matters
- b. The preparation and publication of laser safety standing orders and operating procedures.
- c. Ensuring that relevant laser safety standing orders and operating procedures applicable to all items of laser equipment are correctly applied when the laser is in store or undergoing maintenance/repair.
- d. Ensuring that frequent inspections of laser protective enclosures, adherence to laser equipment operating procedures, and laser protective eyewear and clothing are conducted and recorded.
- e. Ensuring that the name of the LSO and a list of authorised laser users are prominently displayed within each laser work area (not applicable to in-service laser devices)
- f. The immediate reporting and investigation of any possible/suspected overexposure to laser radiation in accordance with accident/incident reporting procedures
- g. Act as a focal point for all laser safety queries for the establishment.

Responsibilities

10. Before any activity involving a laser is conducted, it must be certified by the MLST, unless exemption criteria are met.

11. If the activity is a general range activity that will be repeated for training purposes, then an MLRSCC will be required, unless the laser hazards can be contained within the range boundaries. It is the responsibility of the RCO, or LSO if appointed, to ensure that the laser has been certified and that a MLRSCC is obtained before the activity is conducted. It is the responsibility of the RCO, or LSO if appointed, to ensure that all certification remains up to date.

12. If the activity is a trial, then a MLTSCC will always be required. It is the responsibility of the TCO to ensure that the correct certification is in place before the trial is conducted. The RCO, or if appointed the LSO, of the range shall be made aware of the activity and certification in place.

13. If the laser is being brought on site by external contractors, it is the sites responsibility to engage with the contractor to ensure that the laser is being used safely in accordance with local policy.

System Certification

14. All military lasers must be certified by a Military Laser Safety Advisor unless exemption criteria are met. Every military laser will have a MLSSAC which will outline the hazards associated with the laser beam. MLSSACs are stored on the [DOME system](#). DOME can be used to request a new certificate for a new system, or to re-issue a certificate that is now out of date. MLSSACs are valid for 3 years from their date of issue.

15. For any site activities not covered by Range Certification or Trial Certification, approved Safe Operating Procedures (SOP) and Risk Assessments (RA) should be produced. These should be reviewed by the MLST to ensure laser hazards and risks are captured correctly.

16. If you cannot find the certificate on DOME, the MLST can be contacted at DESWpns-DOSG-MLST@mod.gov.uk for assistance.

Range Certification

17. Range certification applies to MoD ranges, Government-Owned, Contractor-Operated (GOCO) MoD Ranges, and other MoD establishments such as Fieldcraft Training Areas (FTAs) and airfields. If the hazard distance template stated in the user handbook or MLSSAC does not fit within the range or training area boundary, or there are no control measures in place to ensure non-authorised personnel cannot enter the laser hazard zone, a MLRSCC will be required. Should the exclusion template fit within the training area boundary and controls are in place, a MLRSCC will not be required. If unsure, the MLST can give advice on range certification.

18. Class 1 and Class 2 lasers can be used on and off range without any restrictions, but operators should be aware of the risk of dazzle for visible lasers. All other laser classes have some restrictions associated with them. For further information please contact the MLST for assistance.

19. For Air-to-Ground designation, there are certain limitations depending on the class of the laser and associated hazards distances. For further detail please contact the MLST for assistance.

20. Probabilistic Risk Assessment (PRA) is an advanced method for calculating risk to 1st, 2nd, and 3rd parties during a specific activity. All PRA assessment must be conducted by the MLST.

Trial Certification

21. A MLTSCC will be required if a laser is being trialled, or if a trial involves the use of a laser. A MLTSCC will not be required if the users in use are Class 1 or Class 2 or if the MLSSAC exemption criteria in DCOP 501 is met. If a certificate is not issued, the lasers must still be captured within the activity risk assessment. Visible lasers will still pose a dazzle hazard.

Self-Certification

22. Individual organisations or establishments involved in trials work may be permitted to self-certify laser trials at specific sites, with the DSA DOSR acting as the

laser safety auditors. All requests for self-certification must be approved by DSA DOSR.

Accidents & Incidents

23. For regulations on Accidents & Incidents please see Regulation 301. In the event of an accident or incident local procedures should be followed. The MLST should be made aware of any accidents or incidents involving a laser.

Change Management

24. MLSSAC and MLRSCC are valid for 3 years from their date of issue. MLTSCCs are valid only for the dates of the trial activity. All certification must remain up to date. The responsibilities section shows who is responsible for ensuring certification remains up to date. If there are any changes to the activity (such as the addition of new targets) the certificate will have to be updated to reflect this.