



Australian Government

DEFOH011B Develop laser safety plans

Release: 2

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Modification History

Release	TP Version	Comments
2	DEF12V2	Removal of repetitive Performance Criteria Statement Application added Minor change to Unit Descriptor and Range Statement Changes to Evidence Guide
1	DEF12V1	Primary release.

Unit Descriptor

This unit covers the competency required to develop laser safety plans and procedures.

The unit includes identifying, evaluating and overseeing the control of laser hazards; developing laser safety papers and templates; providing technical advice on laser safety; developing and drafting laser safety policy, procedures and instructions; and preparing the selection of laser safety controls, labels and signage.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication. In a Defence context, this means that there is no civilian need to hold this unit in order to meet licensing, legislative, regulatory or certification requirements.

Application of the Unit

This unit was developed for Defence workers involved in the development of laser safety plans as a workplace responsibility, but is applicable to all individuals who work in this field. Typically, these individuals must demonstrate the ability to work independently or as part of a team under indirect supervision. They must be able to use discretion and judgement and take responsibility for the quality of their outputs.

All activities are carried out in accordance with relevant legislation, organisational policies and procedures, including:

- Equipment manufacturers' specifications
- Previous testing reports
- Risk assessments
- Standing Operating Procedures (SOPs)
- Australian Regulation Protection and Nuclear Safety Authority (ARPANSA) requirements
- Relevant Australian and international standards
- State/territory/commonwealth legislation

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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Required Skills and Knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the development of laser safety plans	1.1 Laser sources are identified and confirmed. 1.2 Standards and legislation appropriate to lasers are identified and accessed. 1.3 Existing organisational records relevant to laser equipment are identified and accessed. 1.4 Equipment and resources required for the assessment of laser equipment are identified, acquired and prepared . 1.5 Work health and safety (WHS) requirements including those contained.
2. Assess laser hazards	2.1 Laser classifications are verified. 2.2 Maximum permissible exposures of continuous wave and repetitively pulsed lasers are evaluated. 2.3 Laser hazards are identified and laser hazard environments are assessed.
3. Develop laser safety plans	3.1 Appropriate consultation with stakeholders is conducted. 3.2 Technical standards, organisational environmental requirements and laser exposure levels are identified and interpreted 3.3 Laser safety plans are developed and forwarded to the relevant authority.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

- apply complex mathematical processes
- communicate effectively
- conduct research
- provide technical advice
- write technical reports

Required Knowledge

- characteristics of lasers including the types of lasers and the fundamentals of laser operation
- laser environment

- organisational policy and procedures relevant to laser operations
- relevant Australian and international standards
- report writing

Evidence Guide

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessment must confirm the ability to

- identify relevant laser hazards
- develop procedures and plans to mitigate the hazards in the working environment.
- apply knowledge of relevant work health and safety legislative frameworks
- identify inspection tools and methods appropriate to the workplace
- apply principles and practices of work health and safety inspections
- identify intervention points for advice to assist in work and to guide problem solving

Consistency in performance

Evidence for competency in this unit must be gathered over time and across a range of workplace or simulated situations.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in the workplace or under conditions that accurately simulate a realistic workplace in accordance with all relevant legislation and organisation requirements.

Evidence should be gathered while observing the individual conducting actual or simulated development of laser safety plans. A record of all relevant reports of the activity should be submitted as evidence for assessment.

Specific resources for assessment

Access to research material, manufacturers' equipment specifications and existing related policy and instructions.

Range Statement

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Organisational records may

- Electronic records

include:	• Inventories • Journals • Registers
Equipment and resources may include:	• Gauges • Laser measuring instruments • Recording devices
Preparation of equipment and resources may include:	• Calibration of testing equipment • Testing equipment for safe operation (confidence testing) • Testing equipment for serviceability
Work health and safety requirements may include:	• Award provisions • State/territory/commonwealth and local government legislation and by-laws
Laser classifications may include:	• Confirmation of calculations to determine the classification of a laser in accordance with Australian and international laser safety standards (such as contained in AS/NZ 2211.1:1997) • Reference to guidance on the applicability of international laser safety standards based on guidance and advice issued by ARPANSA
Laser hazards may include:	• Extended source viewing • Point source and intra-beam viewing • Specular reflections • Use of magnifying optics
Laser hazard environments may include:	• Climatic and weather variations • Geographical and geological variations • Laboratories • Operation and training field environments including land, sea (above and below water level), air and space • Variations due to vegetation
Stakeholders may include:	• External agencies • Government/agency regulators/inspectors • Immediate supervisors • Internal agencies • WHS representatives • Other interested parties, including members of the public • Relevant personnel in the chain of command • Unit managers
Laser safety plans may	• Laser templates • Monitoring processes

include:	• Nominal ocular hazard area/s (NOHA) • Protocols and local controls • Recommendations for additional control measures • Reference to laser operating limitations such as power output, length of time/burst, number of repeat exposures • Reference to protective measures, such as governing the use of binoculars or observing the source • Referrals to other experts • Requirement for special optical components/filters, clothing or equipment
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Unit Sector(s)

Not applicable.