



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **PUADEF0H011B Develop laser safety plans**

**Revision Number: 1**

## **PUADEF0H011B Develop laser safety plans**

### **Modification History**

Not applicable.

### **Unit Descriptor**

#### **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.

### **Application of the Unit**

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The application of this unit in the workplace - the environments, complexities and situations involved - will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

This text will be useful for the purposes of job descriptions, recruitment advice or job analysis; where possible, it will not be too job specific to allow other industries to import it into other Training Packages, where feasible.

### **Licensing/Regulatory Information**

Not applicable.

## Pre-Requisites

**Prerequisite Unit/s** Nil

## Employability Skills Information

**Employability Skills** 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. <b>Prepare for the development of laser safety plans</b> | <p>1.1 Laser sources are identified and confirmed in accordance with <i>organisational policy and procedures</i></p> <p>1.2 <i>Standards and legislation</i> appropriate to lasers are identified and accessed</p> <p>1.3 Existing <i>organisational records</i> relevant to laser equipment are identified and accessed</p> <p>1.4 <i>Equipment and resources</i> required for the assessment of laser equipment are identified, acquired and <i>prepared</i> in accordance with organisational procedures</p> <p>1.5 <i>Occupational health and safety (OH&amp;S) requirements</i> including those contained in organisation procedures, are applied throughout the operation</p>               |
| 2. <b>Assess laser hazards</b>                              | <p>2.1 <i>Laser classifications</i> are verified in accordance with legislative requirements, safety standards and organisational policy and procedures</p> <p>2.2 Maximum permissible exposures of continuous wave and repetitively pulsed lasers are evaluated in accordance with legislative requirements, safety standards and organisational policy and procedures</p> <p>2.3 <i>Laser hazards</i> are identified in accordance with legislative requirements, safety standards and organisational policy and procedures</p> <p>2.4 <i>Laser hazard environments</i> are assessed in accordance with legislative requirements, safety standards and organisational policy and procedures</p> |
| 3. <b>Develop laser safety plans</b>                        | <p>3.1 Appropriate consultation with <i>stakeholders</i> is conducted in accordance with organisational policy and procedures</p> <p>3.2 Technical standards, organisational environmental requirements and laser exposure levels are identified and interpreted</p> <p>3.3 Laser safety plans are developed in accordance with legislative requirements and organisational policy and procedures</p> <p>3.4 Laser safety plans are forwarded to the relevant authority in accordance with organisational</p>   |

policy and procedures

## Required Skills and Knowledge

### 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

### EVIDENCE GUIDE

## EVIDENCE GUIDE

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

Assessment must confirm the ability to identify applicable hazards and to provide safe and practical policy, procedures and instructions that counter these hazards in the work environment for operators of lasers and others working in an environment where lasers may be encountered.

### **Consistency in performance**

Competency should be demonstrated over a range of laser types. This may be in training or an operational setting.

### **Context of and specific resources for assessment**

#### **Context of assessment**

Competency should be assessed in relation to policy and/or instructions/advice provided in accordance with all relevant legislation and workplace requirements.

#### **Specific resources for assessment**

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

### **Guidance information for assessment**

Information that will assist or guide assessment will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

## Range Statement

### 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.

#### **Laser safety plans may include**

Laser templates  
 Monitoring processes  
 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

#### **Organisational policy and procedures may include**

Equipment manufacturers' specifications  
 Previous testing reports  
 Risk assessments  
 Standing Operating Procedures (SOPs)

#### **Standards and legislation may include**

Australian Regulation Protection and Nuclear Safety Authority (ARPANSA) requirements  
 Relevant Australian and international standards  
 State/territory/commonwealth legislation

#### **Organisational records may include**

Electronic records  
 Inventories  
 Journals  
 Registers

#### **Equipment and resources may include**

Gauges  
 Laser measuring instruments  
 Recording devices

#### **Preparation of equipment**

Calibration of testing equipment

**RANGE STATEMENT****and resources may include**

Testing equipment for safe operation (confidence testing)

Testing equipment for serviceability

**Occupational 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

OH&S representatives

Other interested parties, including members of the public

Relevant personnel in the chain of command

Unit managers



## **Unit Sector(s)**

Not applicable.

## **Corequisite Unit/s**

**Co-requisite Unit/s**                      Nil