Australian Government

Department of Education, Employment and Workplace Relations

PUADEFEO709D Apply explosive ordnance design principles

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit Descriptor This unit covers the competency required to apply design principles of explosive ordnance in the conduct of various explosive ordnance operations and processes.

Application of the Unit

Application of the Unit This competency normally applies to the individual who is required to apply design principles of explosive ordnance in the conduct of various explosive ordnance operations and processes including demolition operations, improvised explosive device disposal operations, trials, technical investigations, platform integration, configuration, maintenance and inter-operability.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Pre-requisite 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. **Establish reference techniques**	1.1 ***References*** relevant to the design principles of explosive ordnance, components and associated weapons systems are identified and acquired in accordance with ***standard research procedures***
	1.2 Specific design principles are identified within research material in accordance with standard research procedures
	1.3 Occupational health and safety (OH&S) principles and requirements are identified and observed throughout the process
2. **Apply design criteria**	2.1 ***Explosive ordnance***, ***components and associated weapons systems design criteria*** are applied through physical inspection and analysis against research material
	2.2 Explosive ordnance, components and associated weapons systems characteristics are determined from an analysis of the design criteria
	2.3 ***Explosive ordnance***, ***components and associated weapons systems performance characteristics*** are determined from an analysis of the design criteria and technical data

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required Skills

- access, interpret and apply technical information
- apply OH&S requirements
- apply quantitative and qualitative analysis
- apply research techniques

Required Knowledge

- analysis processes and techniques
- characteristics, technical capabilities and limitations of explosive ordnance, components and associated weapons systems
- design principles of explosive ordnance, components and associated weapons systems
- explosions and terminal effects
- relevant OH&S requirements
- research processes

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessment must confirm the ability to: • comply withrelevant OH&S requirements in establishing reference techniques • determine the characteristics and the performance characteristics of explosive ordnance, components and associated weapons systems. **Consistency in performance** Competency should be demonstrated in a range of actual or simulated explosive ordnance contexts.
Context of and specific resources for assessment	**Context of assessment** Competency should be assessed in the workplace or in a simulated work environment, in accordance with all relevant legislation and Defence requirements. **Specific resources for assessment** Access is required to: • policy and standards relevant to explosive ordnance, components and weapon systems.

EVIDENCE GUIDE

Method of assessment	In a public safety environment assessment is usually conducted via direct observation in a training environment or in the workplace via subject matter supervision and/or mentoring, which is typically recorded in a competency workbook. Assessment is completed using appropriately qualified assessors who select the most appropriate method of assessment. Assessment may occur in an operational environment or in an industry-approved simulated work environment. Forms of assessment that are typically used include: • direct observation • interviewing the candidate • journals and workplace documentation • third party reports from supervisors • written or oral questions.

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.

References may include	ABCA standards Academic texts and papers Australian Standards DEFAUST standards and instructions Defence service publications Foreign publications Historical publications Manufacturer's publications NATO standards
Standard research procedures may include	Computer databases Internet access Published standards and instructions
Explosive ordnance, components and associated weapons systems design criteria may include	Associated safety precautions and hazards Colour identification schemes Explosive fill Fuzing/initiation Markings Method of employment Propulsion systems Shape Size Terminal effects Warhead design
Explosive ordnance, components and associated weapons systems performance characteristics may include	Firing sequences Flight characteristics Applications, target analysis and attack requirements Arming sequence

RANGE STATEMENT

Ballistic performance and tolerances
Energetic materials
Delivery system characteristics
Human factors
Initiation sequence
Preparation sequence
Terminal effects
Velocities

Unit Sector(s)

Not applicable.