



Australian Government

Department of Education, Employment and Workplace Relations

PUADEFCA315B Supervise engineering operations

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

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This unit covers the competency required to command, lead and manage engineering personnel of up to a sub-unit size (about 130) on operations.

Command is the authority a commander in the military service lawfully exercises over subordinates by virtue of rank or assignment.

This unit also includes the skills and knowledge required to lead and manage under extreme conditions in a high-risk environment. It therefore requires individuals to be incisive in a fluid and demanding environment, to act independently, and to lead by example.

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. Prepare and plan for engineering operations

- 1.1 Competence of subordinates is confirmed and maintained in accordance with *standard procedures*
- 1.2 *Personnel administration* is maintained in accordance with standard procedures
- 1.3 Orders are received and clarified as necessary to determine commander's intent
- 1.4 *Constraints and risks* relevant to the task are determined and managed in accordance with standard procedures
- 1.5 Appropriate resources for the task are assembled, and any shortfalls that limit capability are reported to the chain of command
- 1.6 Occupational health and safety (OH&S) requirements and recognised safety precautions are applied throughout the operation in accordance with standard procedures
- 1.7 Planning decisions are made based on a *logical process* to solve operational problems
- 1.8 *Battle procedures* are conducted in accordance with standard procedures

2. Conduct engineering operations

- 2.1 Orders are prepared and delivered in accordance with standard procedures
- 2.2 Subordinates are directed and supervised in accordance with organisational requirements
- 2.3 Liaison is conducted in accordance with operational requirements and standard procedures
- 2.4 *Support from outside* agencies is organised and directed

3. Finalise engineering operations

- 3.1 Debriefs are conducted in accordance with standard procedures
- 3.2 Post activity analysis is conducted and subsequent recommendations are made in accordance with standard procedures
- 3.3 Equipment, stores and ammunition are reconditioned, replaced or returned as applicable
- 3.4 Documentation is completed in accordance with standard procedures
- 3.5 Subordinates' health and well-being is monitored

and any anomalies are referred or fixed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required Skills

- combat engineer skills
- develop instructions from given orders
- draw simple construction plans
- navigate by day and night, vehicle and foot
- operate Global Positioning System (GPS)
- operate weapons
- simple levelling for construction tasks
- supervise subordinates
- use computers
- write reports

Required Knowledge

- civil and general construction occupational competencies and related equipment.
Such as:
- work in confined space and heights
- traffic control
- road repairs and culverting
- civil construction and design methods
- employment of plant and operators
- employment of civil trades
- combat communications
- combat engineer skill sets and equipment including:
- engineering information and intelligence
- engineering technical reconnaissance
- field construction
- field defences and obstacles
- water purification and analysis
- timber felling and milling
- high-risk search
- chemical, biological, radiological and nuclear (CBRN):
- personal decontamination station/equipment decontamination station
- CBRN survey
- counter surveillance and deception
- mine warfare/booby traps
- demolitions/destruction of malfunctioned explosive ordnance
- blast effects

REQUIRED SKILLS AND KNOWLEDGE

- target hardening
- battle area clearance
- bridging - wet, dry, non-equipment
- watercraft
- deployment of engineer equipment and personnel:
- convoy orders
- occupation and defence of a unit position
- deployment planning data sheet (DPDS)
- combat skills including:
- weapons (individual, crew served and direct fire support weapon systems)
- tactical reconnaissance
- navigation
- track and patrolling
- tactical deployment
- command and control
- emergency response engineering
- engineering specialist skills including:
- army working diver
- engineer driving
- plant operations
- quarrying operations
- timber milling operations
- explosive ordnance disposal operations
- explosive detection dog team employment
- geometric engineering including:
- survey
- terrain analysis
- geospatial information systems
- product support
- legal responsibilities
- relevant legislation and procedures in relation to environmental requirements and Rules of Engagement
- relevant OH&S regulations/requirements, equipment, material and personal safety requirements
- risk assessment techniques

Evidence Guide

EVIDENCE GUIDE

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EVIDENCE GUIDE

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

Assessment must confirm the ability to supervise a range of missions such as:

General construction of pre-designed timber structures, sandbag walls, obstacles, expedient structures and field defences using the following techniques:

- construction design and plans
- excavation
- revetment
- basic carpentry
- concreting

The construction process must include the design and use of field machines (field machines may include devices such as slings, gyns, derricks and sheers to construct the mechanical advantage necessary to lift and move the load) to move a load of at least three tonne.

Searchof:

- an occupied building
- an unoccupied building
- a vehicle (may include aircraft, boat, truck, train etc)
- route (road)
- area
- and involving liaison with a higher authority (search advisor, cordon commander, police, explosive ordnance disposal, etc.).

Offensive, defensive and security tasks (such as patrolling, attacking or withdrawing) involving:

- navigation (day, night, vehicle, foot)
- tracking and patrolling
- employment of unit weapon systems:
- individual weapons
- crew served weapons
- direct fire support weapons
- communications
- living in the field.

The individual should be exposed to the extremes of the operational environment where a person is under physical and mental stress.

Consistency in performance

EVIDENCE GUIDE**Context of and specific resources for assessment**

Competency should be demonstrated over time in a range of environments. This may be in an operational or simulated operational setting.

Context of assessment

Competency should be assessed in the context of commanding an engineering sub-unit and should replicate the extremes of an operational environment. The assessment would usually be simulated due to the nature of this high-risk environment.

Specific resources for assessment

Access to a group of engineers of sub-unit size or below, including weapons, equipment and appropriate operating areas.

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.

Standard procedures may include

Australian Standards
 Defence Instructions
 Job guides, pamphlets and other publications
 Manufacturers' handbooks, industry specifications and technical instructions
 OH&S regulations
 Organisational policies and procedures
 Procedure manuals
 Relevant local government by-laws
 Relevant state/territory or federal legislation or regulations
 Routine Orders
 Standing Operating Procedures
 Standing Orders
 Written and verbal orders

Personnel administration may include

Career management
 Counselling
 Discipline
 Pay
 Welfare

Constraints may include

Environmental conditions
 Experience of subordinates
 Health
 Morale
 Operational tempo
 Resources
 Terrain
 Training short falls

RANGE STATEMENT

	Troops to task
	Welfare
Risks may include	Loss of equipment
	Loss of personnel
	Threats injury
Logical process may include	Engineer battlefield assessment
	Individual military appreciation process
Battle procedures may include	Concurrent activity
	Rehearsals
	Thorough reconnaissance
	Warning orders
Support from outside agencies may include	Armour
	Artillery
	Engineers
	Logistics
	Medical
	Rotary and fixed wing aircraft
Mission may include	Combat tasks
	Expedient construction
	General construction
	High-risk searches
	Movement of loads
	Nuclear, biological, and chemical defence
	Point of entry assessment and preparation
	Target hardening
	Timber milling

Unit Sector(s)

Not applicable.

Corequisite Unit/s

Co-requisite Unit/s Nil