



Australian Government

DEFEO812A Acquire data related to environment

Release 2

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Modification History

Release	TP version	Comments
2	DEF12 V2	Layout adjusted.
1	DEF12 V1	First release.

Unit Descriptor

This unit covers the competency required to acquire data related to the environment in a proof and experimental environment.

Explosive ordnance proof tests are conducted to ensure weapons systems or explosive ordnance in service with the Australian Defence Force meets the required standards. The acquisition of data related to the environment is a common component of proof tests and normally involves a number of personnel both in planning and implementation.

This unit does not cover the planning for data acquisition. Normally a data acquisition plan would be a component of the testing plan. If planning is required then it is covered in DEFEO602C Plan explosive ordnance trials.

Application of the Unit

This unit applies in a physical science or engineering environment where product undergoes testing to establish that it meets established standards and/or specifications.

This unit was developed for data acquisition specialists working within proof and experimental organisations in Defence but is applicable to any individual in this field of work. Typically these individuals must demonstrate the ability to work as individuals and as part of a team under direct and/or indirect supervision, use discretion and judgement, and take responsibility for the quality of their output. All activities are carried out in accordance with relevant organisational policies and procedures.

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 Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for data collection	1.1 <i>Stakeholders</i> and test participants are briefed in accordance with <i>organisational policies and procedures</i> , and <i>test plan</i> 1.2 Safety systems and procedures are checked and initiated in accordance with organisational policies and procedures, and test plan 1.3 Key activities and timelines are scheduled with full consideration to the specification and available resources, and are described according to organisational policies and procedures 1.4 <i>Administrative and legal requirements</i> for data collection are complied with and recorded 1.5 <i>Relevant personnel</i> are informed about the project 1.6 Designated staff responsibilities are communicated to staff to ensure clarity of understanding of the work and to provide a basis for ongoing assessment
2. Gather data	2.1 <i>Equipment</i> is operated according to <i>manufacturer's specification</i> , statutory and organisational policies and guidelines 2.2 <i>Entities</i> are related to a <i>reference system</i> based on the specifications 2.3 Data is collected using <i>methodologies</i> detailed in the data collection plan 2.4 <i>Metadata</i> is documented according to accepted industry standards 2.5 Any discrepancies between specification and actual activities are identified and planned for 2.6 <i>Work health and safety (WHS) requirements</i> are planned for and adhered to throughout the conduct of the project
3. Finalise the collection process	3.1 <i>Attributes</i> and <i>topological structures</i> are added to spatial data according to specifications 3.2 All <i>required documentation</i> is completed according to organisation's requirements 3.3 All data and documentation is stored according to organisation's requirements 3.4 Data integrity is checked in accordance with the validation plan

Required Skills and Knowledge

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

Required Skills

- analyse and evaluate information
- communicate effectively with stakeholders
- identify relevant information
- liaise effectively with stakeholders
- prepare and present reports
- provide and receive feedback in a constructive manner
- review literature
- solve problems
- use appropriate information technology and software
- use a variety of verbal and non-verbal communication techniques

Required Knowledge

- analysis process
- codes of practice
- data acquisition methodologies
- information sources
- licensing requirements
- regulatory requirements
- relevant legislation
- research techniques
- standards relevant to organisational operations

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

- establish the data collection process
- rectify collection faults
- maintain the data and documentation

Consistency in performance

Competency should be demonstrated over time in a variety of environments and tests/trials.

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 organisational requirements.

Specific resources for assessment

Access is required to:

- live fire range
- data collection equipment

Method of assessment

This unit may be assessed with the following unit:

- DEFEO101D Work safely with explosive ordnance

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

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.

<p><i>Stakeholders</i> may include:</p>	<ul style="list-style-type: none"> • Clients or customers (internal and external) • End user/s • General public • Industry • Landowner/s • Organisation's senior management • Other agencies • Other functional areas within the organisation • Project teams • Relevant interest groups • Sponsor/funding bodies • Steering committee members • Supplier/service provider • Unions
<p><i>Organisations</i> may include:</p>	<ul style="list-style-type: none"> • Defence • Defence contractors and sub-contractors • Defence Materiel Organisation • Defence Science and Technology Organisation • International test agencies
<p><i>Policies and procedures</i> may include:</p>	<ul style="list-style-type: none"> • Government and organisational policy, guidelines and procedures relating to: <ul style="list-style-type: none"> • delegation approvals • industrial agreements • procurement guidelines • resourcing • risk management • security • strategic or operational plans • technical and regulatory framework • testing and evaluation • training • Relevant commonwealth, state/territory and local laws affecting organisation's administration such as: <ul style="list-style-type: none"> • financial management and accounting legislation and regulations • WHS legislation

	<ul style="list-style-type: none"> • public sector management acts
<p><i>Test plans</i> may include:</p>	<ul style="list-style-type: none"> • Budget and financial management strategy • Contract management • Cost estimates • Data acquisition strategies • Evaluation criteria • Expected/measurable outcomes • Facilities • Functional performance specifications • Governance strategy • Implementation strategy • Inclusions and exclusions • Information/communication strategy • Intellectual property strategies • Milestones • Objectives • Occupational concept document • People plan including human resource management and human resource development • Performance criteria/indicators • Purpose • Quality assurance • Quality control • Quality standards • Rationale • Required resources • Resource management • Risk management • Roles and responsibilities • Safety criteria • Schedule/timeline • Specific equipment, instrumentation, and/or specialised facilities and required conditions • Task/WBS • Test and evaluation master plan (TEMP) criteria • Test concept document • Testing control mechanisms • Testing deliverables and their acceptance criteria
<p><i>Administrative and legal requirements</i> may include:</p>	<ul style="list-style-type: none"> • Access protocols and obligations • Copyright • Organisational protocols for accessing physical, financial and human resources

	<ul style="list-style-type: none"> • Royalty obligations
Relevant personnel may include:	<ul style="list-style-type: none"> • Administrative staff • Contractors • Field survey staff • Land occupiers • Land owners • Management • Technicians
Equipment may include:	<ul style="list-style-type: none"> • Data-recording equipment • Electronic theodolites • Global positioning system (GPS) units • Levels • Personal computer-based digitising board • Photogrammetric instruments • Sonar • Tide gauge • Total stations • Vehicles
Manufacturer's specification may include:	<ul style="list-style-type: none"> • Calibration specifications • Equipment specifications • Leaflets, operator's manuals • Printed instruction • Spatial database • Warranty documents
Entities may include:	<ul style="list-style-type: none"> • Events • Objects
Reference system may include:	<ul style="list-style-type: none"> • Global coordinate system • Local • Regional
Methodologies may include:	<ul style="list-style-type: none"> • Aerial • Conversion or translation from existing information (hard copy or digital) • Direct or indirect • Field • Manual entry • Remote sensing
Metadata:	<ul style="list-style-type: none"> • Is summarised information about a data set that describes its characteristics including source, availability, quality, date of acquisition, conditions of use, coordinate system, datum
Work health and safety	<ul style="list-style-type: none"> • Development of a site safety plan

<i>(WHS) requirements</i> may include:	<ul style="list-style-type: none"> • Identification of potential hazards • Inspection of worksites • Training of staff in WHS requirements • Use of safety equipment and/or special clothing
<i>Attributes</i> may include:	<ul style="list-style-type: none"> • Size • Type
<i>Topological structures:</i>	<ul style="list-style-type: none"> • Describe the relationships between entities
<i>Required documentation</i> may include:	<ul style="list-style-type: none"> • Accident and injury reports • Authority/approval documentation • Meeting reports • Records and reports of communication • Reimbursements

Unit Sector(s)

Not applicable.