



Australian Government

DEFEO814A Provide survey data for proof and experimental firing

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 conduct surveys and to produce survey data in support of proof and experimental firings.

This survey can be conducted by two people. One person being the observer and the other recording data. This unit of competency covers both roles.

This unit does not cover the planning for the conduct of the survey. Normally survey requirements would be a component of the testing plan. If planning is required, 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. The production of survey data is crucial in the setting up and validation of a number of these proof tests.

This unit was developed for survey 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 survey	1.1 Stakeholders and test participants are briefed in accordance with organisational policies and procedures, and test plan 1.2 Safety systems and procedures are checked and initiated in accordance with organisational policies and procedures, and test plan 1.3 Purpose and requirements of the survey are identified from written or oral instruction 1.4 Survey specifications are confirmed and clarified in accordance with organisational procedures and instructions 1.5 Equipment required for the survey is selected and checked for serviceability in accordance with manufacturers' instructions
2. Conduct survey tasks	2.1 Survey equipment is operated to determine orientation, fixation and other requirements as determined by the survey scheme 2.2 Data from the survey is recorded in accordance with organisational procedures and instructions 2.3 Results are verified for omissions and errors by re-checking visual clues in measurements or actual data 2.4 Survey data is communicated in accordance with standard procedures 2.5 Survey control points are established and recorded in accordance with standard procedures 2.6 Supervisor and colleagues are communicated with regularly throughout the survey activity to ensure smooth operation and progress 2.7 Survey equipment is maintained in accordance with standard procedures
3. Finalise survey tasks	3.1 All survey data is completed according to organisation's requirements 3.2 All survey data and documentation is stored according to organisation's requirements 3.3 Survey data integrity is checked in accordance with the test plan

Required Skills and Knowledge

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

Required Skills

- interpret data
- record information
- use communication systems

Required Knowledge

- analytical processes
- characteristics, tabulated data and limitations of the survey equipment
- communication procedures
- principles of survey

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

- provide the survey data required to conduct proof firings
- maintain the survey 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:

- appropriate survey equipment
- proof testing range

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.

<i>Stakeholders</i> may include:	• 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
<i>Organisations</i> may include:	• Defence • Defence contractors and sub-contractors • Defence Materiel Organisation • Defence Science and Technology Organisation • International test agencies
<i>Policies and procedures</i> may include:	• Government and organisational policy, guidelines and procedures relating to: • 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: • financial management and accounting legislation and regulations • work health and safety (WHS) legislation

	• public sector management acts
Test plans may include:	• 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 • Survey data • Task/WBS • Test and evaluation master plan (TEMP) criteria • Test concept document • Testing control mechanisms • Testing deliverables and their acceptance criteria
Survey equipment may include:	• Artillery gun laying system (gun mounted global positioning system [GPS] receiver systems) • Electronic distance measuring equipment

	• Gyroscopic orientator • Hand held GPS receiver • Manual distance measuring equipment • Orienting equipment • Station markers • Theatre grid system • Theodolite • Total stations
Survey data may include:	• Distances • Height differentials • Initialisation data • Inter-visibility • Measurements • Observations • Target measurements • Templated and/or tabulated data
Communicating survey data may include:	• Digital formats • Non-military networks • Oral medium • Radios • Visual medium • Written medium
Standard procedures may include:	• Australian Standards • Job guides, doctrinal pamphlets and other publications • Manufacturers' handbooks, industry specifications and technical instructions • WHS regulations • Organisational policies and procedures • Relevant local government by-laws • Relevant state/territory or federal legislation • Verbal or written orders and job instructions
Survey control points may include:	• Bearing picquet • Bench mark • Calibration point • Firing point • Fixed picquet • Point of change • Survey control point • Target • Trigonometrical station

<i>Maintaining survey equipment</i> may include:	• Calibration • Cleaning • Functionality checks • Lubricating • Non-technical inspection • Testing and adjusting
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Unit Sector(s)

Not applicable.