



Australian Government

DEFINT015 Locate electromagnetic emissions

Release: 1

DEFINT015 Locate electromagnetic emissions

Modification History

Release 1. This is the first release of this unit of competency in the DEF Defence Training Package.

Application

This unit specifies the skills and knowledge required to establish the direction from which a received emission was transmitted ('direction finding') from the clandestine or overt interception of a transmitted electromagnetic emission ('intercept'). This unit also covers the production and reporting of a triangulated emission point-of-origin assessment.

It includes preparing for direction finding activities, and intercepting and locating an electromagnetic emission. It also includes reporting a triangulated emission point-of-origin assessment.

This unit applies to Defence personnel working in electronic warfare and signals intelligence fields but may be applicable to any persons working in a similar role.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Typically, persons undertaking this unit work independently with indirect supervision, and undertake complex tasks within familiar and unfamiliar contexts.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable

Competency Field

Intelligence

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Prepare for direction finding activities

- 1.1** Develop a direction finding task plan, detailing key tasks and timelines in accordance with organisational procedures
- 1.2** Prepare direction finding equipment considering task requirements and duration in accordance with manufacturer specifications
- 1.3** Obtain and clarify tasks and orders, as required
- 1.4** Undertake engagement with all identified stakeholders, in accordance with task requirements and operational procedures

2 Intercept electromagnetic emission

- 2.1** Operate direction finding equipment in accordance with manufacturer specifications and organisational procedures
- 2.2** Intercept target electromagnetic emission in accordance with direction finding task
- 2.3** Confirm identity of target electromagnetic emission in accordance with organisational procedures
- 2.4** Identify relevant legal requirements and apply during interception activities

3 Locate electromagnetic emission

- 3.1** Determine a line of bearing to target emission
- 3.2** Recognise and apply methods to improve accuracy of direction finding measurements
- 3.3** Validate electromagnetic emission and report direction finding measurement in accordance with organisational procedures
- 3.4** Apply direction finding processes to multiple direction finding sites to meet task requirements
- 3.5** Determine a best point estimate of electromagnetic emission point of origin, using lines of bearing communicated from multiple sensors
- 3.6** Document and report electromagnetic direction finding outcomes to relevant personnel in accordance with

organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to DEFINT015 Locate electromagnetic emissions.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6bdbab1e-11ed-4bc9-9cba-9e1a55d4e4a9>

Assessment Requirements for DEFINT015 Locate electromagnetic emissions

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant organisational policies, procedures and protocols
- applying safety, legislative and statutory requirements relevant to the risk assessment
- communicating effectively within the workplace
- converting a magnetic line of bearing to a grid line of bearing for triangulation compilation
- following instructions, protocols and directives
- identifying, interpreting and analysing risk assessment requirements relevant to work being performed
- listening effectively
- locating and intercepting emission
- reporting information appropriate to the situation
- triangulating the location of the isolated electromagnetic emission within a specified and acceptable margin of error
- using specialist sensor equipment.
- using organisational systems and equipment to conduct direction finding.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- calculations to convert a magnetic line of bearing to a grid line of bearing for triangulation compilation
- communication network systems and architecture
- compliance principles
- direction finding and geolocation principles and procedures
- direction finding systems and equipment
- electromagnetic spectrum
- international time zones and date lines
- magnetic to grid conversion
- manufacturer specifications for relevant locating electromagnetic emissions equipment

- radio frequency propagation
- relevant direction finding task plan
- relevant legislation and organisational policies and procedures including:
 - telecommunications legislation
 - privacy legislation and protocols
- relevant reporting procedures and formats
- triangulation mathematical equations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including organisational guidelines, protocols, procedures, regulations, codes of practice and operation manuals.

Links

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