



Australian Government

Department of Education, Employment and Workplace Relations

**ICTTCR3192A Protect against
electromagnetic radiation and system
hazards when working on
telecommunications radio sites**

Release: 1

ICTTCR3192A Protect against electromagnetic radiation and system hazards when working on telecommunications radio sites

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to protect personnel against electromagnetic radiation (EMR) and system hazards when working on telecommunications radio sites.</p> <p>A licensed rigger is required for the installation of some rigging equipment.</p> <p>The National Standard for Licensing Persons Performing High Risk Work applies to persons performing dogging and rigging work.</p> <p>Completion of the following units is required for certification at either basic, intermediate or advanced levels.</p> <p>CPCCLDG3001A Licence to perform dogging CPCCLRG3001A Licence to perform rigging basic level CPCCLRG3002A Licence to perform rigging intermediate level CPCCLRG4001A Licence to perform rigging advanced level.</p> <p>If operation of an elevated work platform (EWP) is required, a licence may be required.</p> <p>Achievement of this unit standard does not imply that the holder is competent to carry out EMR surveys.</p> <p>Users should confirm requirements with the relevant federal, state or territory authority.</p>
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Application of the Unit

Application of the unit	<p>Technical staff who work on telecommunications radio sites apply the skills and knowledge in this unit. They may make use rigging plant and equipment, fall arrest, fall guarding and fall constraint and team communications.</p> <p>This unit applies to standard telecommunications structures.</p>
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare for work at a telecommunications site with potential EMR hazards</p>	<p>1.1. Prepare for given work using safe working practices and procedures according to the occupational health and safety (OHS) Act and relevant legislation, codes, regulations and standards</p> <p>1.2. Assess potential sources of radio frequency (RF) EMR allowing permissible public and occupational EMR exposure limits according to Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)</p> <p>1.3. Verify methods for determining EMR levels and strategies for eliminating, minimising, or isolating on-site EMR hazards according to industry practice</p> <p>1.4. Confirm work objectives and specifications of equipment to be installed according to design drawings, installation plans, and equipment manufacturer's specifications</p> <p>1.5. Select equipment and personal protective equipment required to support the EMR hazard management plan according to company policy</p>
<p>2. Plan and carry out the EMR hazard management plan against an on-site situation</p>	<p>2.1. Produce EMR hazard management plan according to company policy</p> <p>2.2. Consult with client to confirm EMR hazard management plan and update if required</p> <p>2.3. Communicate the agreed EMR hazard management plan to all personnel on site</p>
<p>3. Monitor the EMR hazard management plan</p>	<p>3.1. Maintain ongoing communication to all personnel regarding amendments to the EMR hazard management plan according to company policy</p> <p>3.2. Ensure that a personal radiation monitor (Radman) is worn according to manufacturer's instructions and industry practice</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

REQUIRED SKILLS AND KNOWLEDGE

- communication skills to:
 - communicate the revised EMR hazard management plan to all personnel on site
 - liaise with other personnel
 - use radio devices
- literacy skills to read and interpret:
 - EMR hazard management plan
 - specifications and technical documentation
- numeracy skills to:
 - evaluate different types of technical data
 - interpret results
 - take measurements
- planning and organisational skills to plan, prioritise and monitor own work and OHS responsibilities
- problem solving and contingency management skills to adapt rigging activities and requirements to particular sites and conditions
- safety awareness skills to:
 - apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
 - apply remote area first aid
 - ensure that Radman is worn according to manufacturer's instructions and industry practice
 - prevent and treat hypothermia
 - select and use personal protective equipment for rigging projects to suit different applications and for work at heights
 - select and use required personal protective equipment for rigging projects to suit different applications and for work at heights conforming to industry and OHS standards
 - work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- task management skills to work systematically with required attention to detail and adherence to all safety requirements
- technical skills to:
 - interpret and analyse documentation as sources of information relating to the site and potential EMR hazards
 - select and use appropriate equipment and practices to suit different applications
 - review the EMR hazard management plan and update to align with the on-site situation
 - use equipment required to support the EMR hazard management plan

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

- antenna principles
- EMR risk assessment and mitigation strategies
- features and operating requirements of rigging equipment
- licensing and regulatory issues applying to rigging practices and systems on telecommunications radio structures
- remote area first aid
- rigging practices and systems to telecommunications radio structures
- specific knowledge of:
 - EMR:
 - associated risks
 - methods of detecting and reporting EMR hazards
 - potential dangers of overexposure
 - safety practices and devices
 - sources and types of radio frequency EMR
 - optical fibre cabling and equipment safety practices
 - personal protective equipment
 - requirements of the OHS Act, relevant regulations, and applicable site and company OHS procedures
 - working at heights safety practices

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, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

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

Evidence of the ability to:

- produce and maintain the EMR hazard management plan against an on-site situation
- carry out work according to the EMR hazard management plan.

Context of, and specific resources for assessment

Assessment must ensure:

- site on which rigging operations may be conducted
- rigging and safety equipment

EVIDENCE GUIDE	
	relevant regulations, standards specifications and manuals.

EVIDENCE GUIDE	
Methods of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct observation of the candidate working safely with EMR on a telecommunications radio structure • oral or written questioning of the candidate to assess OHS requirements and work practices associated with EMR.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICTTCR3191A Install radio plant and equipment on telecommunications structures. <p>Aboriginal people and other people from a non-English speaking background may have second language issues.</p> <p>Access must be provided to appropriate learning and assessment support when required.</p> <p>Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed.</p> <p>In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency.</p> <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>

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. **Italicised**

RANGE STATEMENT

wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

RANGE STATEMENT

Relevant legislation, codes, regulations and standards may include:

- Australian Communications Industry Forum (ACIF) standards and codes
- Australian Communications and Media Authority (ACMA) technical standards
- appropriate licences that may be required:
 - crane
 - dogging
 - rigging
 - scaffolding
 - winch
- Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) EMR standard
- AS 1353.1:1997
- AS 1353.2:1997
- AS 1657:1992
- AS 2089:2008
- AS 2319:2001
- AS 2626: replaced by AS/NZS 1891.4:2000
- AS 3775.1:2004
- AS 3775.2:2004 AS 3777:2008 Shank hooks and large eye hooks - maximum 60 t
- AS 4497.2:1997
- AS/NZS 1891.1:2007
- AS/NZS 1891.4:2000
- AS/NZS 4801:2001
- AS/NZS ISO 14001:2004 guidance for use
- Australian building codes and regulations
- Australian standards
- CE, American National Standards Institute (ANSI) equipment standards
- enterprise standards
- environmental protection
- equipment certifications:
 - NFPA 1983 (2006 edition)
 - NFPA/UL G-rated (General Use)
- equipment standards:
 - intrinsically safe lightning protection
 - site engineering standard
- fire regulations

RANGE STATEMENT	
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| | <ul style="list-style-type: none">• heritage legislation• international standards• local government• OHS• Radcoms Act• related publications• Telecoms Act• WI's, CI's, Business Operating Procedures (BOP), Radiocommunications Assignment and Licensing Instruction (RALI), assignment guidelines. |
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RANGE STATEMENT	
<i>Potential sources of radio frequency EMR</i> may include:	<ul style="list-style-type: none"> • cellular and mobile transmitter • microwave • radar • radio.
<i>Methods for determining EMR levels</i> may include:	<ul style="list-style-type: none"> • calculations • documentation • EMR hazard management plan: <ul style="list-style-type: none"> • EMR measuring devices with evidence of two required • personal monitoring devices • personal protection equipment • methods of detecting and reporting EMR hazards • reported EMR hazards • signage • sources and types of radio frequency EMR • sources of information relating to the site and potential EMR hazards: <ul style="list-style-type: none"> • co-location records • company records • site owner's documentation • use of personal monitoring devices • verifying and maintaining the EMR hazard management plan against an on-site situation.
<i>Personal protective equipment</i> may include:	<ul style="list-style-type: none"> • Radman • safety equipment may include: <ul style="list-style-type: none"> • aerial safety belts and lines • anchor straps • anchors • crane cage • ear muffs • elevated platform • equipment guards • fall arrest devices and systems • fall constraint systems • fall guarding systems • flashing lights • gloves • guards

RANGE STATEMENT	
	<ul style="list-style-type: none"> • helmets • lanyards • pulleys • rescue harness • rigging plates • rope clamps • safety cages • safety glasses • safety harness: <ul style="list-style-type: none"> • fall arrest • sit harness • scaffold deck • static lines • warning signs and tapes.
<p><i>EMR hazard management plan</i> may relate to:</p>	<ul style="list-style-type: none"> • assessment of the status and condition of telecommunications structures: <ul style="list-style-type: none"> • access for climbing • EMR hazardous areas • structural integrity • control measures • EMR devices • site hazard identification • verifying and maintaining the EMR hazard management plan against an on-site situation.

Unit Sector(s)

Unit sector	Telecommunications
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Co-requisite units

Co-requisite units	

Competency field

Competency field	Telecommunications Rigging Installation
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