



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICTOHS2080A Provide telecommunications services safely on roofs**

**Release: 1**

## **ICTOHS2080A Provide telecommunications services safely on roofs**

### **Modification History**

Not Applicable

## Unit Descriptor

<p><b>Unit descriptor</b></p>	<p>This unit describes the performance outcomes, skills and knowledge to perform safe work practices when installing or repairing telecommunications equipment on roof structures.</p> <p>This unit of competency specifies the outcomes required to safely install or repair telecommunications equipment on roof structures. It includes planning, risk assessment and implementing control measures whilst undertaking telecommunications installation or repairs.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.</p>
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## Application of the Unit

<p><b>Application of the unit</b></p>	<p>Technicians and installers apply the skills and knowledge in this unit.</p> <p>This unit applies to domestic and commercial roof work applications, which may be new or existing structures requiring installation or maintenance of telecommunications equipment. Typical equipment includes antenna or satellite dish, coaxial cable, waveguide and hybrid fibre coaxial (HFC) hardware.</p>
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## Licensing/Regulatory Information

Refer to Unit Descriptor

## Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	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. Follow workplace procedures for hazard identification and risk control</p>	<p>1.1. Notify customer and arrange access to the site</p> <p>1.2. Recognise and report <b>hazards</b> in the work area to <b>designated personnel</b> according to workplace procedures</p> <p>1.3. Follow occupational health and safety (<b>OHS</b>) <b>legislative requirements, workplace procedures</b> and work instructions to <b>control risks</b></p> <p>1.4. Comply with <b>safe work practices</b> for working safely on roofs and adhere to workplace <b>environmental requirements</b> throughout the work</p> <p>1.5. Implement <b>duty of care requirements</b> to provide a safe working environment</p> <p>1.6. Complete <b>job safety analysis (JSA)</b> sheets according to work requirements, including <b>hazard identification</b> and <b>risk assessment</b></p> <p>1.7. Use and maintain <b>personal protective equipment</b> and <b>personal safety equipment</b> according to work requirements and apply fall protection and personal safety requirements according to regulatory requirements</p>
<p>2. Prepare for work on rooftop</p>	<p>2.1. Assess scope of work according to workplace procedures, <b>relevant legislation, codes, regulations and standards</b> and relevant <b>job information details</b></p> <p>2.2. Inspect site to determine layout and equipment requirements according to work order</p> <p>2.3. Select materials, <b>tools and equipment</b>, including personal protective equipment and check for serviceability</p> <p>2.4. Inspect and install fall protection and perimeter protection equipment, ensuring adequacy for work and conformance to regulatory requirements</p> <p>2.5. Install <b>roof safety system</b> according to workplace and regulatory requirements</p> <p>2.6. Select and install appropriate signage and barricades</p>
<p>3. Perform telecommunications work on rooftop</p>	<p>3.1. Inspect access from ground to work area ensuring it is safe and according to regulatory requirements</p> <p>3.2. Estimate the total weight of material to be raised to rooftop to carry out the work</p> <p>3.3. Determine and use the safest <b>lifting method</b> to bring materials and equipment to rooftop according</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>to regulatory requirements.</p> <p>3.4. Secure test equipment, hardware and tools safely on rooftop and distribute weight to eliminate risk of damage to roof cover</p> <p>3.5. Inspect safety system periodically for compliance with regulations according to workplace procedures and <b>report faults</b></p> <p>3.6. Monitor risk control measures to ensure that they are effective and appropriate to the task and work environment</p> <p>3.7. Reassess risk control measures as required, according to changed work practices or site conditions and make alterations within scope of authority</p>
4. Complete activities and documentations	<p>4.1. Dismantle safety system according to prescribed sequence and remove from worksite</p> <p>4.2. Clear work area and dispose of materials or recycle according to state and territory legislation and workplace procedures</p> <p>4.3. Clean, check and maintain tools and equipment according to manufacturer's recommendations and workplace procedures</p> <p>4.4. Complete <b>documentation</b> according to workplace requirements and notify customer for sign off</p>

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

- communication skills to:
  - access information
  - determine requirements
  - enable clear and direct communication to identify and confirm requirements and share information
  - follow instructions
  - report faults

**REQUIRED SKILLS AND KNOWLEDGE**

- use language and concepts appropriate to cultural differences
- use and interpret non-verbal communication, such as hand signals
- literacy skills to:
  - complete workplace documentation
  - document scope of work and work practices
  - read and interpret:
    - documentation from a variety of sources
    - drawings and specifications
- numeracy skills to estimate and calculate weight of materials
- organisational skills, including the ability to plan and set out work
- providing necessary safety measures, including the installation of a roof safety system
- safety awareness skills to :
  - conduct a safety assessment of a roof worksite
  - identify and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- technical skills to:
  - access and understand site-specific instructions in a variety of media
  - use communications equipment

**Required knowledge**

- JSA and safe work method statements
- nature of work undertaken on roofs
- processes of providing for safe working practices
- relevant statutory and regulatory authority requirements related to working safely on roofs
- roof safety equipment and systems and considerations to facilitate working safely on roofs
- SI system of measurement

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>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.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• locate, interpret and apply relevant information, standards and specifications for working safely on roofs</li> <li>• apply safety requirements throughout the work sequence, including the use of personal protective equipment</li> <li>• provide for erection, maintenance and dismantling of the fall and perimeter protection requirements for the site. As a minimum given the plans and specifications for the roof working area of a corner, extending at least 4 metres in either direction and greater than 1.8 m high, incorporating harnesses and harness fixing points for safe personal and stores access to the roof, stores and equipment locations</li> <li>• carry out a risk assessment ensuring: <ul style="list-style-type: none"> <li>• correct identification of risks and safety requirements</li> <li>• correct selection and use of appropriate processes, tools and equipment</li> <li>• completing all work to specification</li> <li>• compliance with regulations, standards and organisational quality procedures and processes</li> <li>• communicating and working effectively and safely with others.</li> </ul> </li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> <li>• site on roof where operations may be conducted</li> <li>• induction procedure and requirements</li> <li>• relevant specifications and work instructions</li> <li>• tools and equipment appropriate to applying safe work practices</li> <li>• support materials appropriate to activity</li> <li>• workplace instructions relating to safe working practices and addressing hazards and emergencies</li> </ul>



<b>EVIDENCE GUIDE</b>	
	<ul style="list-style-type: none"> <li>• relevant regulations, standards specifications and manuals, including industry related systems information.</li> </ul>
<b>Method of assessment</b>	<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"> <li>• direct observation of the candidate preparing and carrying out telecommunications work on roofs</li> <li>• oral or written questioning of the candidate to assess OHS requirements and work practices associated with working on roofs</li> <li>• review of JSAs and documentation prepared by the candidate.</li> </ul>
<b>Guidance information for assessment</b>	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <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. Bold italicised 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.

<p><b><i>Hazards</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• contact with electrical wiring</li> <li>• environmental hazards:             <ul style="list-style-type: none"> <li>• air pollution</li> <li>• dangerous gases</li> <li>• heavy or noxious metals pollution</li> <li>• noise</li> <li>• petrochemical spillage</li> <li>• prevailing weather condition</li> <li>• release of hydrochlorofluorocarbons (HCFC)</li> </ul> </li> <li>• fibre offcut damage to eyes and skin</li> <li>• flammable cleaning chemicals fluids and solvents</li> <li>• health hazards:             <ul style="list-style-type: none"> <li>• dangerous or harmful substances</li> <li>• handling of optic fibres and lasers</li> <li>• risk of infection</li> <li>• risk of sustained injury from repetitive tasks</li> </ul> </li> <li>• laser damage to eyes</li> <li>• radio frequency (RF) exposure from transmitting antenna in close proximity</li> <li>• roof safety system in poor condition or non-existent</li> <li>• safety hazards             <ul style="list-style-type: none"> <li>• biomechanical</li> <li>• lifting</li> <li>• potentially harmful procedures, such as welding</li> <li>• working at heights.</li> </ul> </li> </ul>
<p><b><i>Designated personnel</i></b> includes:</p>	<ul style="list-style-type: none"> <li>• OHS personnel</li> <li>• other persons authorised or nominated by the enterprise or industry to:</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• perform specified work</li> <li>• approve specified work</li> <li>• inspect specified work</li> <li>• direct specified work</li> <li>• project manager</li> <li>• site manager</li> <li>• supervisors</li> <li>• team leaders.</li> </ul>
<b><i>OHS legislative requirements</i></b> may relate to:	<ul style="list-style-type: none"> <li>• Australian standards</li> <li>• duty of care</li> <li>• health and safety representatives, committees and supervisors</li> <li>• industry OHS standards and guidelines</li> <li>• licences, tickets or certificates of competency</li> <li>• national safety standards</li> <li>• OHS and Welfare Acts and regulations</li> <li>• safety codes of practice.</li> </ul>
<b><i>Workplace procedures</i></b> may include:	<ul style="list-style-type: none"> <li>• assessing risks</li> <li>• controlling hazards</li> <li>• emergency responses to: <ul style="list-style-type: none"> <li>• accidents</li> <li>• fires</li> <li>• other emergencies</li> </ul> </li> <li>• identifying hazards</li> <li>• reporting OHS issues</li> <li>• resolving OHS issues</li> <li>• using personal protective equipment</li> <li>• using personal safety equipment.</li> </ul>
<b><i>Control risks</i></b> may include:	<ul style="list-style-type: none"> <li>• three steps in risk management process: <ul style="list-style-type: none"> <li>• assess risk</li> <li>• identify hazard</li> <li>• implement control methods.</li> </ul> </li> </ul>
<b><i>Safe work practices</i></b> may relate to:	<ul style="list-style-type: none"> <li>• avoiding contact with chemicals, breathing in fumes and vapours, and digesting such materials</li> <li>• being aware of what to do and how to treat any potential accident</li> <li>• drugs and alcohol at work</li> <li>• general requirements for:</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• safe use of plant and equipment</li> <li>• use of personal protective equipment and clothing and personal safety equipment</li> <li>• housekeeping to ensure a clean, tidy and safe work area</li> <li>• manufacturer's warnings or instruction labels in relation to the laser product are not damaged or obscured during installation</li> <li>• no fibre particles, hazardous solvents or chemicals are left on site at the completion of the work</li> <li>• observing warning labels used in conjunction with laser and optical fibre systems and RF system</li> <li>• preventing bullying and harassment</li> <li>• relevant Australian standards of required health and safety precautions</li> <li>• smoking in designated areas</li> <li>• specific organisational safety requirements</li> <li>• storing and removing debris</li> <li>• using appropriate warning labels on climbing equipment and rooftop</li> <li>• using fire fighting equipment</li> <li>• using first aid equipment</li> <li>• using safe operating procedures, including recognising and preventing hazards associated with: <ul style="list-style-type: none"> <li>• hazardous materials and substances</li> <li>• service lines</li> <li>• surrounding structures and facilities</li> <li>• trip hazards</li> <li>• use of tools and equipment</li> <li>• worksite visitors and the public</li> <li>• working at heights</li> <li>• working in proximity to others.</li> </ul> </li> </ul>
<b><i>Environmental requirements</i></b> may include:	<ul style="list-style-type: none"> <li>• clean-up protection and management</li> <li>• dust</li> <li>• noise</li> <li>• ozone protection</li> <li>• waste management.</li> </ul>
<b><i>Duty of care requirements</i></b> relate	<ul style="list-style-type: none"> <li>• legal responsibility to do everything reasonably</li> </ul>

<b>RANGE STATEMENT</b>	
to:	<p>practicable to protect others from harm</p> <ul style="list-style-type: none"> <li>• own responsibilities to comply with safe work practices: <ul style="list-style-type: none"> <li>• activities that require licences</li> <li>• certificates of competency</li> <li>• tickets</li> </ul> </li> <li>• relevant state OHS requirements: <ul style="list-style-type: none"> <li>• construction supervisors</li> <li>• construction workers</li> <li>• designers</li> <li>• employers and self-employed persons</li> <li>• inspectors</li> <li>• manufacturers and suppliers</li> <li>• persons in control of the work site</li> <li>• subcontractors.</li> </ul> </li> </ul>
<b><i>Job safety analysis (JSA)</i></b> may include:	<ul style="list-style-type: none"> <li>• each new workplace or worksite situation</li> <li>• health, safety and environmental hazards</li> <li>• primary application of assessment</li> <li>• sheets to record the steps in the risk management process: <ul style="list-style-type: none"> <li>• assessment</li> <li>• control</li> <li>• identification.</li> </ul> </li> </ul>
<b><i>Hazard identification</i></b> may include:	<ul style="list-style-type: none"> <li>• checking equipment and work area: <ul style="list-style-type: none"> <li>• before work commences</li> <li>• during work</li> </ul> </li> <li>• housekeeping</li> <li>• reviewing accident or incident records</li> <li>• workplace inspections.</li> </ul>
<b><i>Risk assessment</i></b> may include:	<ul style="list-style-type: none"> <li>• a scale: <ul style="list-style-type: none"> <li>• high</li> <li>• low</li> <li>• medium</li> </ul> </li> <li>• awareness of likelihood and consequence factors</li> <li>• JSA.</li> </ul>
<b><i>Personal protective equipment</i></b> used to control a hazard may	<ul style="list-style-type: none"> <li>• breathing apparatus: <ul style="list-style-type: none"> <li>• dust masks</li> </ul> </li> </ul>

<b>RANGE STATEMENT</b>	
include:	<ul style="list-style-type: none"> <li>• respirators</li> <li>• clothing: <ul style="list-style-type: none"> <li>• boots</li> <li>• gloves</li> <li>• overalls</li> <li>• protective jackets or pants for preparing, cutting or jointing optical fibres</li> </ul> </li> <li>• face and head protection: <ul style="list-style-type: none"> <li>• face masks</li> <li>• goggles</li> <li>• helmets</li> </ul> </li> <li>• radiation detectors.</li> </ul>
<b><i>Personal safety equipment</i></b> includes:	<ul style="list-style-type: none"> <li>• aerial safety belts and lines</li> <li>• anchor straps</li> <li>• karabiners</li> <li>• lanyard</li> <li>• rope clamps</li> <li>• safety harness.</li> </ul>
<b><i>Relevant legislation, codes, regulations and standards</i></b> shall include:	<ul style="list-style-type: none"> <li>• Australian Communications Industry Forum (ACIF) standards and codes</li> <li>• AS Communications Cabling Manual (CCM) Volume 1</li> <li>• AS/NZS 3000:2007</li> <li>• AS/NZS 3080:2003</li> <li>• AS/NZS 3084:2003</li> <li>• AS/NZS 3085.1:2004</li> <li>• AS/NZS IEC 61935.1:2006</li> <li>• AS/NZS IEC 61935.2:2006</li> <li>• AS/NZS ISO/IEC 14763.3:2007</li> <li>• AS/NZS ISO/IEC 15018:2005</li> <li>• AS/NZS ISO/IEC 24702:2007</li> <li>• Australian building codes and regulations</li> <li>• cabling security codes and regulations</li> <li>• compliance with appropriate Australian Communications and Media Authority (ACMA) technical standard requirements for aerial cables</li> <li>• Environmental Protection Acts</li> <li>• fire regulations</li> <li>• Institute of Electrical and Electronics Engineers</li> </ul>

<b>RANGE STATEMENT</b>	
	(IEEE) <ul style="list-style-type: none"> <li>• noise abatement and heritage legislation</li> <li>• OHS</li> <li>• technical standards AS/ACIF S008:2006 and AS/ACIF S009:2006.</li> </ul>
<b><i>Job information details</i></b> may include:	<ul style="list-style-type: none"> <li>• diagrams and sketches</li> <li>• instructions issued by customer</li> <li>• regulatory and legislative requirements</li> <li>• safe work procedures relating to working on roofs</li> <li>• signage</li> <li>• work order</li> <li>• work schedules, plans and specifications.</li> </ul>
<b><i>Tools and equipment</i></b> may include:	<ul style="list-style-type: none"> <li>• communications equipment:               <ul style="list-style-type: none"> <li>• mobile phones</li> <li>• 2 way radios</li> </ul> </li> <li>• fall protection</li> <li>• ladders</li> <li>• lifting and load shifting equipment, including:               <ul style="list-style-type: none"> <li>• chain blocks</li> <li>• elevated work platforms</li> <li>• hoists and jacks</li> <li>• scaffolds</li> </ul> </li> <li>• perimeter protection</li> <li>• signage and barricades.</li> </ul>
<b><i>Roof safety system</i></b> may include:	<ul style="list-style-type: none"> <li>• footwalks</li> <li>• handrails</li> <li>• harness fixing points</li> <li>• kickboards</li> <li>• safety harness</li> <li>• scaffolds.</li> </ul>
<b><i>Lifting method</i></b> may include:	<ul style="list-style-type: none"> <li>• arranging for pre-delivery of goods</li> <li>• using block and tackle</li> <li>• using construction elevator</li> <li>• using elevated work platforms.</li> </ul>
<b><i>Report faults</i></b> may be:	<ul style="list-style-type: none"> <li>• according to company's workplace procedures</li> <li>• written or verbal notification.</li> </ul>
<b><i>Documentation</i></b> may include:	<ul style="list-style-type: none"> <li>• completed work order</li> <li>• modifications to procedures</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• reported faults</li> <li>• work details.</li> </ul>

### Unit Sector(s)

<b>Unit sector</b>	Telecommunications
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### Co-requisite units

<b>Co-requisite units</b>		

### Competency field

<b>Competency field</b>	Occupational health and safety
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