22311VIC Course in Retrofitting for Energy and Water Efficiency

Accredited for the period: 1st January, 2016 to 31st December, 2020 under Parts 4.4 and 4.6 of the *Education and* Training *Reform Act 2006*

Course Documentation

This qualification has been entered on the TGA (Training.gov.au) being the official National Register of Vocational Education and training in Australia: http://training.gov.au/

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Section A: Copyright and course classification information

1. Copyright owner of the course	Copyright of this document is held by Department of Education and Training (DET) Victoria © State of Victoria 2016
2. Address	Department of Education and Training (DET) Higher Education and Skills Group Executive Director Training System Performance and Industry Engagement PO Box 4367 Victoria, 3001 **Organisational Contact:** Manager Training Products Higher Education and Skills Group Telephone: (03) 9637 3688 **Day to day contact:** Curriculum Maintenance Manager Service - General Manufacturing Chisholm Institute 2 New Holland Drive Cranbourne VIC 3977 PO Box 684 Dandenong VIC 3175 T +61 3 9238 8448 M 0408 823 373 E paul.saunders@chisholm.edu.au
3. Type of submission	This course is submitted for reaccreditation. It supersedes and is equivalent to 22005VIC Course in Retrofitting Homes for Energy and Water Efficiency.
4. Copyright acknowledgement	Copyright of this material is reserved to the Crown in the right of the State of Victoria. © State of Victoria (Department of Education and Training) 2016.
5. Licensing and franchise	Copyright of this material is reserved to the Crown in the right of the State of Victoria. © State of Victoria (Department of Education) 2016. This work is licensed under a Creative Commons Attribution-NoDerivs 3.0 Australia licence (http://creativecommons.org/licenses/by-nd/3.0/au/). You are free to use, copy and distribute to anyone in its original form as long as you attribute Higher Education and Skills Group, Department of Education and Early Childhood Development as the author and you license any derivative work you make available under the same licence. Request for other use should be addressed to : Department of Education and Training Higher Education and Skills Group Executive Director Training System Performance and Industry Engagement GPO Box 4367 Melbourne VIC 3001

	Copies of this publication may be downloaded, free of charge, from the Department of Education and Training website: http://www.education.vic.gov.au/training/providers/rto/Pages/courses.aspx#link100
6. Course accrediting body	Victorian Registration and Qualifications Authority: http://www.vrqa.vic.gov.au
7. AVETMISS information	*[Classification codes for AVETMISS data may be found on the NCVER website at www.ncver.edu.au]* **ANZSCO code** 312 Building and Engineering Technicians **ASCED Code** Building 0403 **National course code** 22311VIC
8. Period of accreditation	1 January 2016 to 31 December 2020

Section B: Course information

1. Nomenclature	**Standard 1 AQTF Standards for Accredited Courses**
1.1 Name of the qualification	22311VIC Course in Retrofitting for Energy and Water Efficiency
1.2 Nominal duration of the course	30 hours
2. Vocational or educational outcomes	**Standard 1 AQTF Standards for Accredited Courses**
2.1 Purpose of the course	This course provides the skills and knowledge necessary to undertake retrofitting activities to reduce energy and water usage. It also serves as an introduction to concepts of sustainability. Retrofitters who complete this course will not be engaged in building and construction work, and will not undertake tasks normally completed by a qualified tradesperson. Possible employment options include local councils, private companies, contractors, and utility and maintenance companies.
***3.* Development of the course**	**Standards 1 and 2 AQTF Standards for Accredited Courses**
3.1 Industry / enterprise/ community needs	The retrofitting of premises to reduce energy and water usage has developed into a growing "industry" since the initial development of this course in 2009. These retrofitting activities may support Government initiatives in reducing carbon emissions, energy usage and water usage and/or may be provided on a commercial basis. This course has been re-developed to continue to provide the training to ensure retrofit installers have the necessary skills and knowledge to safely undertake retrofitting activities. The Victorian Energy Efficiency Target (VEET) scheme promoted as the Energy Saver Incentive is a Victorian government initiative. It is designed to make energy efficiency improvements more affordable, contribute to the reduction of greenhouse gases, and encourage investment, employment and innovation in industries that supply energy efficiency goods and services. VEET commenced on 1 January 2009 and is administered by the Essential Services Commission (ESC). The scheme was established under the Victorian Energy Efficiency Target Act 2007 and is administered in accordance with the Victorian Energy Efficiency Target Regulations 2008. This course provides for the Mandatory Safety Training (MST) for installers as required under the VEET scheme. For full details of the MST requirements of the VEET scheme please refer to the Victorian Energy Efficiency Target website: https://www.veet.vic.gov.au/Public/Public.aspx?id=Home

	No annual figures are available due to ownership of the course belonging to Sustainability Victoria before transfer to Department of Education and Training. However as an indication of the enrolments in the course there are over 4000 individuals who have registered as installers in Victoria since the commencement of this course in 2009 as reported by the Essential Services Commission. This indicates that there have been up to 4000 participants who have completed this course which is a requirement for registration with the ESC. The Victorian Greenhouse Strategy is helping to cut greenhouse gases through a number of successful programs, and it supports community initiatives such as increasing household recycling and installing water efficient showerheads. The VEET scheme will play a role in achieving the Victorian government's target of reducing greenhouse gas emissions to 60% below its 2000 level, by 2050. The VEET scheme's objectives are to: • reduce greenhouse gas emissions, • encourage the efficient use of electricity and gas, and; • encourage investment, employment and technology development in industries that supply goods and services which reduce the use of water, electricity and gas by consumers. There is an increase in the private sector of companies offering retrofitting services to householders. Public and Government awareness of the need to minimise energy and water usage has also resulted in a heightened demand for training in the area of retrofitting. With the development of the VEET scheme to encompass commercial premises it is likely that demand for this course will increase. The skills and knowledge required by the participants were initially discussed at a workshop held with Sustainability Victoria and informed by the content of a survey. The survey was completed by other stakeholders including, the Brotherhood of St Lawrence, Mission Australia and representatives from EcoVantage, who provide specialist sustainability services and cost effective energy and water efficient products. For the purposes of reaccreditation the original skills and knowledge profile of the course was revisited and updated as required by the steering committee. **Course Redevelopment Steering Committee** Chair: Bruce Page, Director, *Energy Makeovers* Committee members: Alicia Baker, Director, *Say Green* Steve Kostoff, CEO, *Green Business Audit and Training* Abraham Peddi, VEET Team Leader, *Shine On* Neil Fraser, Executive Manager, *Energy Safe Victoria* Rod Woolley, Manager VEET, *Essential Services Commission (ESC*) Maria Ponce, VEET Project Analyst, *Essential Services Commission (ESC)* The skills and knowledge provided through this course are not covered by a qualification within a Training Package.

3.2 Review for re-accreditation

This course replaces and is equivalent to 22005VIC Course in Retrofitting Homes for Energy and Water Efficiency

Units in superseded course	Units in current course	Relationship
VU20781 Minimise health and safety risk when retrofitting homes for energy and water efficiency	VU21858 Minimise health and safety risk when retrofitting for energy and water efficiency	Equivalent
VU20790 Undertake retrofitting to improve energy and water efficiency	V21859 Undertake retrofitting to improve energy and water efficiency	Equivalent

22005VIC Course in Retrofitting Homes for Energy and Water Efficiency was developed by Sustainability Victoria and accredited in July 2009. In July 2010 the unit VPAU382 Install ceiling insulation was removed from the course. A further amendment took place in December 2011 with the replacement of the unit CPCCOHS1001A Work safely in the construction industry with VU20781 Minimise health and safety risk when retrofitting homes for energy and water efficiency. Minor updates to the two units VU20781and VU20790 were made in January 2015 to reflect changes to government policy, new technologies and to correct typographical/grammatical errors.

In April 2015 copyright to the course was transferred to the Victorian Department of Education and Training.

4. Course outcomes

Standards 1, 2, 3 and 4 AQTF Standards for Accredited Courses

4.1 Qualification level

This course does not align with any specific level of the Australian Qualifications Framework (AQF), but is consistent with the definition of a short course in that it is a program of learning that comprises units of competency and has been accredited by an accrediting authority.

4.2 Employability skills

Not Applicable

4.3 Recognition given to the course (if applicable)

Not Applicable

4.4 Licensing/ regulatory requirements (if applicable)

At the time of accreditation no licensing or regulatory requirements apply.

Successful completion of this course is mandatory for retrofitting installers undertaking certain retrofitting activities under the Victorian Energy Efficiency Target (VEET) scheme.

5. Course rules — Standards 2, 6,7 and 9 AQTF Standards for Accredited Courses

5.1 Course structure

The Course in Retrofitting for Energy and Water Efficiency comprises two units. Candidates must complete the two units of competence listed in the table below.

A Statement of Attainment will be issued for any unit of competency completed if the full course is not completed.

Unit of competency/ module code	Field of Education code (six-digit)	Unit of competency/module title	Pre-requisite	Nominal hours
Core units				
VU21858	040300	Minimise health and safety risk when retrofitting for energy and water efficiency	NA	6
VU21859	040300	Undertake retrofitting to improve energy and water efficiency	NA	24
		Total Nominal Hours		**30**

5.2 Entry requirements

There are no formal entry requirements for this course, although participants would be best equipped to achieve the course outcomes if they have the learning, reading, writing, oracy and numeracy skills to Level 2 of the Australian Core Skills Framework (ACSF).

If a learner does not have the level required, support must be provided for the learner to attain the required standard.

Assessment — Standards 10 and 12 AQTF Standards for Accredited Courses

6.1 Assessment strategy

All assessment will be consistent with the Australian Quality Training Framework Essential Conditions and Standards for Initial/Continuing Registration Standard 1.2 (Initial) and Standard 1.5 (Continuing). See:

AQTF User guides to the Essential Conditions and Standards for Initial/Continuing Registration:

Or

Standard 1: Clauses 1.1 and 1.8 of the Standards for Registered Training Organisations (SRTOs) 2015

Or

the relevant Standards for Registered Training Organisations in effect at the time of assessment.

	It is recommended that the assessment strategy for this course be designed to: ▪ cover a range of skills and knowledge required to demonstrate the achievement of the course aims ▪ collect evidence on a number of occasions and in a variety of contexts and situations ▪ be appropriate to the skills, knowledge, methods of delivery and needs/characteristics of the learners ▪ assist assessors to interpret evidence consistently ▪ recognise prior learning ▪ be equitable to all groups of learners Where possible, an integrated approach to assessment is suggested in relation to the competency outcomes of the course. Integration can refer to: elements and performance criteria from the same unit being linked together for assessment Or elements and performance criteria from a range of units being grouped together for assessment. The individual needs of the learner and/or characteristics of the enterprise should be reflected in assessment methods that are chosen in relation to each unit of competency and that assessment need not be undertaken at the end of each element. Assessment methods must include at least one of the following: ▪ practical application and demonstration of skills ▪ oral or written questioning ▪ work-based projects ▪ portfolio of evidence
6.2 Assessor competencies	The *Australian Quality Training Framework Essential Conditions and Standards for Initial/Continuing Registration,* Standard 1.4 states the requirements for the competence of persons assessing the course See AQTF User guides to the Essential Conditions and Standards for Initial/Continuing Registration: Or Standard 1: Clauses 1.1 3,1.14, 1.15, 1.16,and 1.17 of the Standards for Registered Training Organisations (SRTOs) 2015 Or the relevant Standards for Registered Training Organisations in effect at the time of assessment.

7. Delivery	Standards 11 and 12 AQTF Standards for Accredited Courses
7.1 Delivery modes	Strategies should be selected to reflect the nature of the units and the needs of the participants. Some areas of content may be common to more than one unit and therefore integration may be appropriate. The course aims to develop practical competencies within an industry setting. Practical demonstrations and opportunity for application are considered to provide the most suitable strategy to reflect the objectives of the course. An emphasis on OHS/WHS and environmental considerations must be integrated and reinforced at all times.
7.2 Resources	Resources must include: - Equipment and materials relevant to the units of competency - Relevant range of texts, references and/or audio/visual material - Workplace documentation - Relevant organisational OHS/WHS policies and procedures • teachers/trainers who meet the *Australian Quality Training Framework Essential Conditions and Standards for Initial/Continuing Registration* Standard 1.4. See AQTF User guides to the Essential Conditions and Standards for Initial/Continuing Registration: Or • Standard 1: Clauses 1.1 3,1.14, 1.15, 1.16,and 1.17 of the Standards for Registered Training Organisations (SRTOs) 2015 Or • the relevant Standards for Registered Training Organisations in effect at the time of assessment.
8. Pathways and articulation	There are no formal articulation arrangements at present. Individuals will receive credit for any units completed as part of this course if they enrol in further training where the units are part of the qualification. This course provides for an introduction to concepts of sustainability. Graduates may wish to work towards full qualifications in sectors such as sustainability, energy efficiency and conservation.
9 Ongoing monitoring and evaluation	The Curriculum Maintenance Manager (CMM), General Manufacturing is responsible for monitoring and evaluation of 22311VIC Course in Retrofitting for Energy and Water Efficiency. 22311VIC Course in Retrofitting for Energy and Water Efficiency will be reviewed at mid-point of accreditation period. Evaluations will involve consultation with: • course participants • retrofitting industry representatives • teaching staff • assessors Any significant changes to the course resulting from course monitoring and evaluation procedures will be reported to the VRQA through a formal amendment process.

Section C Units of Competency

VU21858 Minimise health and safety risk when retrofitting for energy and water efficiency

Unit Descriptor

This unit of competency specifies the outcomes required to minimise health and safety risks to self, other people, property and the environment while retrofitting for energy and water efficiency.

Achieving competency in this unit as part of the "22311VIC Course in retrofitting for energy and water efficiency" is mandatory for retrofitting installers undertaking certain activities under the Victorian Energy Efficiency Target (VEET) scheme.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills.

Application of the Unit

This unit of competency supports the attainment of the basic OHS/WHS knowledge required prior to undertaking activities related to retrofitting for energy and water efficiency.

ELEMENT	PERFORMANCE CRITERIA
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 required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*
1 Establish scope of safety risks relevant to required work tasks	1.1 Identify **hazards** at the worksite, assess risks and implement control measures in accordance with **legislative, regulatory and organisational requirements.**
	1.2 Follow **duty of care requirements**.
	1.3 Use information from **safety data sheets** and organisational **safe work method statements** to ensure safe completion of the retrofitting.
2 Plan for safe retrofitting for energy and water efficiency	2.1 Discuss planned retrofitting activity and any safety issues and control measures with the **owner/occupier**.
	2.2 Identify **hazardous materials,** assess risks and control risks in accordance with legislative, regulatory and organisational requirements.
	2.3 Identify retrofitting activities that cannot be performed as a result of the risk assessments and explain the reasons for not undertaking these tasks to the owner/occupier.
	2.4 Explain to the owner/occupier that certain retrofitting activities must be undertaken by a **qualified, registered and/or licensed tradesperson or installer.**

3	Perform safe retrofitting for energy and water efficiency	3.1	Carry out retrofitting activities in accordance with current legislative, regulatory and organisational requirements
		3.2	Use personal protective equipment as required.
		3.3	Select appropriate equipment to complete the retrofitting activity
		3.4	Handle tools, ladders and equipment safely to complete the retrofitting activity
		3.5	Stop retrofitting activities when **unexpected situations** arise that present a hazard to the retrofitter and/or owner/occupier.
		3.6	Seek assistance from host organisation when unexpected situations arise to ensure that retrofitting tasks are completed in a safe manner and/or the premises are made good.
4	Dispose of waste materials in environmentally safe manner	4.1	Identify **recyclable waste materials** and convey to a suitable site, according to current legislative, regulatory and organisational requirements.
		4.2	Dispose of **replaced materials and technology** in accordance with established environmental and safety guidelines, and organisational requirements.
5	Evaluate the safe operation of the retrofit	5.1	Test replaced items to check that retrofitting has been safely completed and record the results of the test in the **organisational documentation.**

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills:

Communication skills to:

- report OHS/WHS hazards and events, according to current legislative, regulatory and organisational requirements
- ask questions to gain relevant information
- discuss OHS/WHS issues and recommend a course of action

Interpersonal skills to:

- promote effective communication and interaction with the owner/occupier

Comprehension skills to:

- read, interpret and understand safety data sheets (SDSs) and organisational safe work method statements (SWMSs) and risk assessment procedures
- identify hazards common to retrofitting
- interpret and understand the basic principles of identifying hazards and controlling risks
- identify and adhere to safety signs and symbols

Required knowledge

- applicable Commonwealth, state or territory OHS/WHS legislation, regulations, organisational requirements and energy efficiency scheme requirements relevant to retrofitting activities
- the basic principles of risk management and risk assessment for retrofitting work
- relevant safety data sheets (SDSs) for materials and products used in retrofitting and organisational safe work method statements (SWMSs)
- types, purposes and uses of personal protective equipment and clothing
- safe use of tools and equipment when undertaking retrofitting activities
- procedures for responding to and reporting OHS/WHS hazards and events (including accidents, incidents, emergencies, injuries, near misses and dangerous occurrences)

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.

hazards may include:

- the potential for conflict with the owner/occupier
- any previous installation or damage that the retrofitter must address or work around
- cramped spaces
- electrical safety issues
- falling objects
- working at height
- hazardous substances and dangerous goods
- biological products
- broken metal
- glass
- leaking containers
- heat that could burn or scald
- objects (such as knives, sharps and syringes) that could penetrate the skin
- hot and cold working environments, and extremes of temperature
- manual handling (including carrying, lifting, pulling and pushing)
- noise
- plant and equipment
- unplanned collapse
- ultraviolet (UV) radiation
- animals and pets
- dust
- uneven and/or slippery interior and exterior surfaces
- removal of old technologies and working parts related to energy and water efficiency
- two metre height maximum for ladder work
- infectious diseases
- fumes and gases.
- pest droppings, sharps and syringes

legislative, regulatory and organisational requirements
may include:

- national safety standards and regulations
- relevant OHS/WHS standards and guidelines
- licences, tickets or certificates of competency.

duty of care requirements
may include:

- the legal responsibility under duty of care to do everything reasonably practical to protect others from harm
- one's own responsibilities to comply with safe work practices, including activities that require licences, tickets, certificates of competency or other qualifications
- relevant state OHS/WHS requirements, including those of employers, self-employed people, people in control of a work site, construction supervisors, construction workers, subcontractors, inspectors designers, manufacturers and suppliers
- appropriate responses to accidents, incidents, emergencies, injuries, near misses and dangerous occurrences

owner/occupier
may include:

- ***householder-*** the person occupying a home as the tenant or lessee. In this instance, permission to undertake retrofitting activities needs to be obtained from the owner.
- **owners -** the person who owns a property but may not necessarily be living there. They may need to give permission for retrofitting to be undertaken at their property.
- ***tenant or lessee*** – the person or organisation occupying a property. In this instance, permission to undertake retrofitting activities needs to be obtained from the property owner
- ***property owner*** – the person who owns a commercial property

hazardous materials
may include:

- electrical cabling
- glass lamps and fluorescent tubes
- corroded tap and shower rose fittings
- roof, wall and floor insulation
- degraded sealants
- gas and/or toxic vapours emission.
- pest infestations and droppings
- contaminated materials, sharps and syringes

qualified, registered and/or licensed tradesperson or installer may include

- plumber
- electrician
- glazier
- builder
- carpenter
- insulation installer
- refrigeration mechanic

personal protective equipment may include

- eye protection
- gloves
- foot/shoe/boot covers
- hearing protection
- protective, well-fitting clothing
- respiratory protection
- safety footwear
- UV-protective clothing and sunscreen

equipment may include:

- step platform ladders
- ladders

unexpected situations may include:

- accidents resulting in personal injury or damage to property
- electric shock
- collapse of the floor, wall or ceiling of a residence being worked in
- electrical short circuit, malfunction or explosion
- uncontrolled fire or escape of gas, toxic vapour, hazardous substance or steam
- near misses or dangerous occurrences which do not cause injury but may pose an immediate and significant risk to the retrofitter and/or occupiers
- uncontrolled and dangerous family pets

recyclable waste materials may include:

- glass
- metal plumbing fittings
- packaging for low-power lamps, shower roses and other retrofitting items
- heat-shrink membrane
- standard lamps
- light fittings ballasts and transformers

replaced materials and technology may include:

- other environmentally hazardous substances
- corroded and unusable plumbing parts
- old draught and weather shields
- sharps

organisational documentation may include:

- the proposed scope of the retrofitting work
- permission to proceed with the retrofitting work
- the property owner's consent
- an OHS/WHS issues report
- a retrofitting test operation checklist
- a waste material disposal report
- energy efficiency certification

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

The critical aspects should reflect what someone competent in the workplace is able to do and what is acceptable evidence to permit an assessor to make a professional judgment. Evidence must be provided of the following:

- knowledge of applicable OHS/WHS legislative, regulatory and organisational requirements for retrofitting work
- understanding of the scope of retrofitting work, with reference to tasks that are specifically excluded
- knowledge of the range of common hazards and procedures for the assessment and control of risk in retrofitting work
- ability to understand OHS/WHS communication processes, information and documentation including the meaning of common safety signs and symbols, and procedures for reporting hazards, incidents and injuries
- ability to respond to incidents and emergencies including evacuation, and knowledge of emergency personnel contact numbers

Context of and specific resources for assessment

Resources for assessment must include:

- applicable Commonwealth, state or territory OHS/WHS legislation, regulations, standards, codes of practice, organisational documentation and energy efficiency scheme requirements relevant to the assessment
- the range of tools and equipment relevant to retrofitting
- safety data sheets for materials used in retrofitting
- organisational safe work method statements where applicable

Where applicable, physical resources should include equipment modified for people with disabilities.

Method of assessment

Assessment methods must include at least one of the following:

- practical application and demonstration of skills
- oral or written questioning
- work-based projects
- portfolio of evidence

It is recommended that, where possible, assessment should take place in a real or simulated workplace.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

VU21859 Undertake retrofitting to improve energy and water efficiency

Unit Descriptor

This unit describes the outcomes required for people undertaking retrofitting to reduce energy and water consumption. This unit does not include any work that falls under the provision of qualified, registered and/or licensed tradespeople.

Achieving competency in this unit as part of the "22311VIC Course in retrofitting for energy and water efficiency" is mandatory for retrofitting installers undertaking certain activities under the Victorian Energy Efficiency Target (VEET) scheme.

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills.

Application of the Unit

This unit applies to people who undertake retrofitting to reduce energy and water consumption.

ELEMENT	PERFORMANCE CRITERIA
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 required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*
1 Plan and prepare for retrofitting	1.1 Plan the retrofitting activity in accordance with all current legislative, regulatory and organisational requirements.
	1.2 Identify the work to be undertaken (follow recommendations made in the environmental assessment where applicable).
	1.3 Explain government initiatives applicable to the retrofitting to the ***owner/occupier***.
	1.4 Identify energy and water efficiency issues and requirements, explain these to the owner/occupier.
	1.5 Obtain permission to proceed with the retrofitting from the owner/occupier and complete relevant documentation.
	1.6 Identify work requiring a qualified, registered and/or licensed tradesperson or installer and explain to the owner/occupier that this work must be carried out by a qualified, registered and/or licensed tradesperson or installer.
	1.7 Complete risk assessments and follow safe work practices and emergency procedures in accordance with legislative, regulatory and organisational requirements.
	1.8 Select tools and equipment to be used, check for serviceability and ensure electrical tools are used with residual current device protection.
	1.9 Identify and obtain ***materials*** appropriate to each work task.
2 Undertake retrofitting	2.1 Use ***tools*** and ***equipment*** safely and in accordance with manufacturers' instructions.
	2.2 Install ***energy-efficient products and services*** in accordance with suppliers' or manufacturers' instructions and with legislative, regulatory and organisational requirements.

	2.3	Explain to the owner/occupier the benefits of the retrofitting and the materials used.
3 Clean up	3.1	Clean the work area and recycle or dispose of all waste materials in accordance with legislative, regulatory and organisational requirements.
	3.2	Clean, check and maintain tools and equipment according to manufacturers' instructions and standard work practices.
	3.3	Complete workplace documentation recording the retrofitting undertaken.

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Communication skills to:

- explain retrofitting activities, the benefits of conserving energy and water and the limitations of the retrofit activities that can be undertaken
- explain the legislative, regulatory and organisational requirements under which retrofit activities take place
- follow written or verbal work instructions
- read and adhere to safety data sheets (SDSs) and organisational safe work method statements (SWMSs)
- understand and respond accordingly to non-verbal communications, (such as hand signals)
- report OHS/WHS hazards according to legislative, regulatory and organisational requirements
- to complete required documentation

Organisational skills to:

- prepare tools, materials and equipment for retrofitting tasks
- plan a work schedule and manage time effectively

Problem solving skills to:

- identify and report OHS/WHS hazards according to legislative, regulatory and organisational requirements
- understand and adhere to common safety signs and symbols

The ability to:

- recognise the retrofitting activities that an installer may perform and those that must be performed by a qualified, registered and/or licensed tradesperson or installer
- use hand and power tools safely and according to manufacturers' instructions
- identify and report any faults in tools or equipment

Interpersonal skills to:

- work successfully with others

Required knowledge

- the basic principles of sustainability and the efficient use of water and energy
- the benefits of retrofitting to increase energy and water efficiency
- responsibilities under OHS/WHS legislation
- legal responsibilities when providing advice about and undertaking retrofitting activities.
- common OHS/WHS hazards and risks, and reporting requirements
- requirements for a systematic approach to planning work activities
- the range and use of energy and water efficient products
- basic ways to save energy in the household
- star ratings principles for appliances
- the tools and equipment required for retrofitting
- the types, purposes and uses of personal protective equipment and clothing
- safety data sheets for materials and products
- Safe Work Method Statements (SWMS), Job Safety Analysis (JSAs), risk assessments.
- required personal presentation standards

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.

legislative, regulatory and organisational requirements
may include:

- OHS/WHS Acts, Regulations and Codes of Practice
- organisation's codes of conduct and safety, including duty of care considerations, organisational safe work method statements and job safety analysis
- relevant Australian Standards
- telemarketing, door-to-door sales and marketing codes of conduct
- installation and explanation requirements under relevant government initiatives

owner/occupier
may include:

- ***householder-*** the person occupying a home as the tenant or lessee. In this instance, permission to undertake retrofitting activities needs to be obtained from the owner
- **owners** - the person who owns a property but may not necessarily be living there. They may need to give permission for retrofitting to be undertaken at their property
- ***tenant or lessee*** – the person or organisation occupying a property. In this instance, permission to undertake retrofitting activities needs to be obtained from the property owner
- ***property owner*** – the person who owns a commercial property

materials
may include:

- casings for ceiling extraction fans
- caulking
- lamps
- curtain pelmets
- expanding filling foam
- exterior sealants
- exterior excluders, fitted with rubber seal
- knowledge of heat-shrink membrane for windows
- interior excluders, fitted with bristles
- quick-drying acrylic primer
- self-adhesive draught-proofing products
- tap washers
- water-efficient shower roses
- internal window coverings
- external window blinds
- chimney balloons
- in-home (electricity use) displays
- standby power controllers.

tools
may include:

- adjustable spanners
- electric drill
- hacksaw/saw
- hammers
- multigrip pliers
- screwdrivers
- tape measure
- glasspaper

equipment
may include:

- tarpaulins
- ladder
- extension cord and lamp
- personal protective equipment, including ear protection, eye protection, face mask, gloves, work boots and work overalls
- residual current device
- step platform ladders

energy-efficient products and services

may include:

lighting:
  - compact fluorescent lamps (CFLs)
  - light-emitting diode (LED) lamps
  - low-voltage halogen lamps
  - other energy-saving lamps

sealing draught and air leakage points using:
  - caulking
  - covers for fans, evaporative air conditioners, wall vents and downlights
  - draught seals and weather seals on doors and windows

chimney balloons

window coverings and treatments:
  - curtain pelmets
  - heat-shrink membrane`
  - outside awnings
  - window blinds

basic plumbing tasks:
  - changing tap washers
  - minor tap repairs
  - replacing shower roses

power:
  - standby power controllers
  - energy or power meters
  - remote control power boards
  - master slave power boards
  - in-home displays

The actual plumbing and electrical work a retrofitter can undertake is also determined by state and territory legislation and regulations.

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

The critical aspects should reflect what someone competent in the workplace is able to do and what is acceptable evidence to permit an assessor to make a professional judgment. Evidence must be provided of the following:

- ability to explain benefits and limitations of retrofitting to the owner /occupier
- ability to understand and apply relevant information, standards and manufacturers' instructions
- compliance with legislative, regulatory and organisational requirements for OHS/WHS
- ability to undertake a range of retrofitting tasks to improve energy and water efficiency
- completion of required workplace documentation

Context of and specific resources for assessment

Resources for assessment must include:

- realistic or simulated tasks covering the mandatory task requirements
- relevant legislative, regulatory and organisational documentation
- relevant Australian standards
- materials, tools and equipment to undertake retrofitting tasks

Method of assessment

Assessment will include at least one of the following:

- Practical application and demonstration of skills
- Oral or written questioning
- Work-based projects
- Portfolio of evidence

It is recommended that where possible, assessment should take place in a real or simulated workplace.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as supervisors, team leaders or specialist training staff.