



Australian Government

**Assessment Requirements for UEERA0047
Install and commission carbon dioxide
refrigeration systems, components and
associated equipment**

Assessment Requirements for UEERA0047 Install and commission carbon dioxide refrigeration systems, components and associated equipment

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (WHS/OHS) requirements and workplace procedures and practices, including using risk control measures
- applying sustainable energy principles and practices
- installing carbon dioxide (CO²) refrigeration system components, pipe work and associated equipment
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- discharging/charging refrigerant/lubricants and pressure testing the system without damage to components
- documenting operating conditions correctly (commissioning)
- identifying the conditions of the CO² refrigerant at various locations in the vapour compression and volatile secondary (liquid recirculation) system
- installing, connecting, securing and aligning components and equipment and ensuring that equipment and pipe work is compliant with relevant industry standards, codes of practice and regulations
- locating and rectifying leaks
- optimising system performance and efficiency
- pressure testing entire system at the appropriate design test pressures using dry nitrogen
- reading and interpreting drawings to pipe work layouts and apparatus locations
- recording measurements
- removing system contaminants and evacuating
- selecting and using appropriate measuring devices correctly
- using calculation methods accurately
- using methodical and efficient commissioning techniques.

Knowledge Evidence

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

- installation and commissioning procedures for CO² refrigeration systems, including:
 - materials and installation procedures:
 - material selection
 - copper pipe standards
 - steel pipe standards
 - pipe connections
 - pipe supports hangers and connections
 - arrangement of isolation valves
 - location of relief valves
 - commissioning:
 - pressure testing
 - evacuation and dehydration
 - charging refrigerant and lubricant
 - system testing and adjustment
 - documentation
- operating conditions of CO² vapour compression and volatile secondary (liquid recirculation/cascade) system/s
- relevant industry standards and practices
- relevant manufacturer specifications
- relevant job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>