



Australian Government

Assessment Requirements for UEERA0053 Install, commission, service and maintain medium temperature systems

Release: 1

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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 (OHS) requirements, including using risk control measures
- applying relevant requirements, legislation, standards, codes of practice and industry procedures
- commissioning a medium temperature refrigeration system
- installing a medium temperature refrigeration system
- locating and rectifying mechanical faults and electrical faults on a medium temperature cabinet or cool room system
- maintaining a medium temperature cabinet or cool room system
- recording values and reporting completion of work.

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:

- commissioning typical general-purpose medium temperature refrigeration system requirements and procedures, including:
 - techniques to determine operating values for a medium temperature system operating with a 2°C product
 - typical cycling and safety control settings for a 2°C product temperature, 6K evaporator td
 - typical cycling and safety control settings for a 2°C product temperature, 6K evaporator td
 - typical initiation and termination settings for forced off-cycle defrost method
- common items identified on a preventative maintenance schedule for a medium temperature cabinet or cool room
- definition and purpose of hazard analysis and critical control points (HACCP)

- defrost methods, including natural off-cycle defrost and forced off-cycle defrost employing a time initiated and time terminated control
- fault finding and rectification of medium temperature systems requirements and procedures, including:
 - symptoms and rectification of typical abnormal system conditions:
 - earthing short (load circuit has connected with casing or frame)
 - high side sub-cooling too low/too high
 - inefficient compressor
 - low side superheat too low/too high
 - non-condensables
 - open circuit
 - refrigerant overcharge and undercharge
 - restricted air flow through condenser
 - restricted air flow through evaporator
 - restricted filter drier/thermostatic expansion valve (TEV) strainer
 - shunted short, including load is internally shorted causing lower resistance
 - typical controller fault codes and use of manufacturers data
- medium temperature cool rooms, including construction and ancillary fittings
- medium temperature display cabinet types, construction and applications, including solid door cabinets, glass door displays, countertops, under-bars and open decks
- medium temperature merchandiser types, construction and applications, including single deck, multi-deck, island, reach-in and serviced
- off-cycle pump-down, including thermostat controlling liquid line solenoid valve purpose and components required
- range of products stored in medium temperature cabinets and cool rooms and required storage conditions, including fresh meat, dairy, delicatessen, mixed drinks, fruit and vegetables
- reading and interpreting single phase wiring and pipe work schematics for a typical medium temperature cabinet or cool room incorporating basic off-cycle, including thermostat controlling compressor
- reading and interpreting single phase wiring and pipe work schematics for a typical medium temperature cabinet or cool room incorporating off-cycle pump-down, including thermostat controlling liquid line solenoid valve
- reading and interpreting three phase wiring schematics for a typical medium temperature cool room incorporating off-cycle pump-down, including thermostat controlling liquid line solenoid valve
- refrigeration equipment installation requirements and procedures, including:
 - maintenance of fire rating integrity
 - relevant legislation, industry standards, codes of practice and regulations
 - self-contained and remote installations
- requirements for condensate removal/drainage.

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, industry standards, 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>