



Australian Government

**Assessment Requirements for MEM18095
Maintain and repair cooling
towers/evaporative condensers and
associated equipment**

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Modification History

Release 1. Supersedes and is equivalent to MEM18095A Maintain and repair cooling towers/evaporative condensers and associated equipment

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting charts, lists, catalogues, specifications, drawings and relevant legislation with respect to maintaining and repairing cooling towers/evaporative condensers and associated equipment
- selecting and using appropriate tools, techniques and test equipment necessary to check and assess components for correct operation and conformance against specifications
- carrying out preventative maintenance according to manufacturers' specifications using refrigeration techniques/practices
- identifying and localising faulty components and confirming malfunction by inspection/testing, and making required adjustments to achieve specifications
- removing the refrigerant from the system and containing in accordance with procedures and regulatory requirements, where required
- removing/dismantling and reassembling faulty components and selecting replacement parts from manufacturers' catalogues to meet the required specifications
- undertaking calculations and numerical operations associated with maintaining and repairing cooling towers/evaporative condensers and associated equipment
- charging the system and verifying correct operation of the equipment to meet specifications, where required
- completing all maintenance records/reports in accordance with SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- terminology of cooling towers
- psychrometrics
- measuring instruments/equipment, specifications and procedures for checking temperature/humidity/air flow

- operation of centrifugal water pumps
- terminology of centrifugal water pumps
- field testing centrifugal pumps
- operation of water valves including bypass valve either mechanical or electrical operation
- procedures for testing of fan motors and operation of controls
- tools, techniques, equipment and procedures for performing preventative maintenance on cooling towers/evaporative condensers and sequence of implementation
- procedures for safely removing the refrigerant and charging the system, including all legislative and regulatory requirements
- tools, techniques, test equipment and procedures for dismantling, repairing, reassembling and testing components
- V belts
- measuring instruments/equipment, specifications and procedures for checking component noise and vibration levels
- process to select replacement parts
- specifications, operational characteristics and process for identifying system components
- process for localising and confirming faulty components
- procedures for reporting non-conformances and completing maintenance records/service reports.

Assessment Conditions

- Assessors must:
 - have vocational competency in maintaining and repairing cooling towers/evaporative condensers and associated equipment at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- 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.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>