



Australian Government

Assessment Requirements for PUAEQU002 Conduct maintenance and repair of firefighting pumps

Release: 1

Assessment Requirements for PUAEQU002 Conduct maintenance and repair of firefighting pumps

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes:

- applying Work, Health and Safety (WHS) / Occupational Health and Safety (OHS) organisational requirements
- diagnosing and repairing a minimum of two faults, one of which includes a foam related fault
- implementing organisational procedures
- operating pump for diagnostic and testing purposes including:
 - engaging pump
 - maintaining appropriate pressure
 - troubleshooting problems
 - switching between water supply sources
 - using ancillary equipment to support operations in a controlled environment
- undertaking three different types of repair activities on pumps used for firefighting operations

Knowledge Evidence

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

- diagnostic testing procedures for pumping systems, including:
 - isolating faults, including internal and external leakage
 - testing system for pressure, suction, and discharge
- inspection and maintenance procedures for key pump components including:
 - assembling pumping system and completing operational tests
 - drive systems
 - filters and strainers
 - mechanical seals
 - mounting brackets and frame
 - overload devices
 - plumbing, bellows, and elbows
- methods to locate and interpret information required to diagnose and repair pumping systems,

including:

- manufacturer and workplace specifications and procedures or equivalent documentation
- post-repair testing and re-testing procedures for pumping systems
- mounting and dismounting of a pump system from vehicle body
- principles of water behaviour and associated risks with firefighting pumping system including:
 - discharge and flow rates
 - motive power
 - operating principles of positive and non-positive displacement pumping systems and associated components
 - principles of hydraulic flow and pressure
 - pump components and their operation
 - pump gauges and controls
 - static and reticulated water supply and their use in pumping operations
- pumping systems and ancillary equipment commonly used in firefighting operations, including:
 - complex pump configurations for draughting and delivery in firefighting operations
- the unique components and operation behaviour of pumping systems and ancillary equipment, including:
 - ancillary equipment used to support the delivery of water and foam
 - cavitation
 - power train for firefighting pumps including the relationship between vehicle engines and the pumping systems (direct couple, power take-off shaft, splitter box)
 - types of primer and their use in pumping operations
- Work, Health and Safety (WHS) / Occupational Health and Safety (OHS) requirements relating to diagnosing and repairing pumping systems, including procedures for:
 - environmental impacts and correct disposal of foam products
 - starting and operating pumping systems
 - working with exhaust fume hazards

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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.

Assessment must occur in workplace operational situations. Where this is not appropriate,

assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

The following resources must be made available:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry, including:
 - ancillary equipment used for the delivery of foam
 - firefighting vehicles and their pumping systems
 - foam agents used in firefighting operations
 - tools, equipment and materials appropriate for inspecting and servicing pumping systems
 - workplace instructions and manufacturer's specifications

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>