



Australian Government

Assessment Requirements for UEGNSG103 Install and commission stationary gas fuelled turbine engines

Release: 1

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Modification History

Release 1: This is the first release of this unit of competency in the UEG Gas Industry 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:
 - applying workplace procedures and practices
 - using risk control measures
- applying sustainable energy principles and practices
- commissioning gas fuelled turbine engine plant and equipment operation, as necessary, and recording results in accordance with approving authority requirements
- conducting pressure testing, repairing leaks and purging the fuel train system entire system to the appropriate design test pressures
- dealing effectively with unplanned events in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- documenting 'as-installed' gas fuelled turbine engine plant, equipment, pipe-work, components and accessories
- installing, securing, aligning and connecting plant, equipment, pipe-work, components and accessories accurately in their planned location and in compliance with codes of practice and relevant industry standards
- obtaining formal authority to proceed with gas fuelled turbine engine installation and commissioning before commencing work, in accordance with regulatory and code of practice requirements
- reading and interpreting documents related to gas fuelled turbine engine plant/equipment, locations and pipe-work connections
- rectifying any defects revealed through on-going inspections
- undertaking on-going gas fuelled turbine engine compliance and safety inspections.

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, including:
 - inspection of the installed turbine engines, pipe-work, components and accessories
 - testing turbine engine operation first without and then with fuel
 - testing and adjusting regulator, operation and safety controls
 - exhaust gases analysis throughout operating parameters, including bi-fuel applications
 - compliance with design specification, regulations, codes, standards and manufacturers specifications
- authority to proceed, including regulatory requirements (scope and restrictions), relevant industry standards and codes of practice
- design specifications
- exhaust/flue requirements, including materials and terminations
- fuel train requirements, including pipe-work and connections, valves, metering devices, regulating valves and electrical controls
- gas fuel types, properties and applications
- gas fuelled turbine engine overview, including types, major components, operating principles, manufacture specifications and diagrams
- installation and commissioning techniques for stationary gas fuelled turbine engine up to a capacity of 500 kW or speeds of 3600 RPM, including:
 - turbine engines plant and equipment
 - gas train pipe-work and components
 - exhaust/flue system
 - ventilation system
 - pressure testing and purging
 - authorisations and certification requirements and procedures
- location ventilation requirements
- relevant job safety assessments or risk mitigation processes, including:
 - hazardous area requirements
 - safe working practices
 - site safety
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements
- relevant workplace documentation and reports including 'as-installed' turbine engine components, pipe-work, flue/exhaust systems and accessories
- relevant workplace policies and procedures
- site arrangements, location and environment.

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.

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Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable 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, facilities, equipment and personal protective equipment (PPE) currently used in industry
- resources used should reflect current industry practices in relation to stationary gas fuelled turbine engines
- 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=6a6c032e-ffcb-4f3d-8063-415efbd261e8>