



Australian Government

Assessment Requirements for AURETA003

Analyse and evaluate electrical and electronic faults in monitoring and protection systems

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Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- analyse and evaluate an electrical or electronic fault in the embedded network monitoring and protection systems of two different vehicles or machinery
- the above faults must involve two of the following:
 - monitoring system (excluding monitoring control module)
 - monitoring control module
 - protection system (excluding protection control module)
 - protection control module.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to analysing and evaluating faults in monitoring and protection systems, including procedures for identifying hazards and controlling risks associated with wearing jewellery while working around high current wiring systems
- principles and processes involved in planning and implementing analysis and evaluation of electrical and electronic faults in monitoring and protection systems
- design and planning of diagnostic procedures, including procedures for diagnosing:
 - sensor and actuator mechanical faults
 - electrical faults
- types, functions, operation and limitations of monitoring and protection systems, including:

- gateway network control module
- bus network topography
- body control module (BCM) functions
- sensor and actuator control and monitoring systems
- control signal circuits
- testing procedures for network monitoring and protection management systems, including the use of:
 - digital multimeter
 - scan tool
 - oscilloscope
- types, functions, operation and limitations of diagnostic testing equipment required to analyse and evaluate electrical and electronic faults in monitoring and protection systems
- procedures for accessing and interpreting scan tool system data, including:
 - diagnostic trouble codes (DTCs), including:
 - conditions that set the DTCs
 - conditions for running DTCs
 - live data
 - freeze frame data
 - waveforms
- procedures for documenting and reporting the analysis and evaluation process
- requirements of Australian Design Rules (ADRs) relating to monitoring and protection systems.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the monitoring and protection systems that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer monitoring and protection system specifications
- two different vehicles or machinery with monitoring and protection system faults
- diagnostic equipment for monitoring and protection system fault diagnosis, including:
 - digital multimeter

- scan tool
- oscilloscope
- tools, equipment and materials appropriate for analysing and evaluating monitoring and protection systems.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

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