Australian Government

Assessment Requirements for MEA319 Inspect gas turbine engine systems and components

Release: 1

Assessment Requirements for MEA319 Inspect gas turbine engine systems and components

Modification History

Release 1 - New unit of competency

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- applying relevant WHS procedures, including lifting and handling of heavy components
- using MSDS and PPE
- using relevant maintenance documentation and aircraft manuals to:
  - recognise through visual/physical inspection external and internal signs of defects/damage to gas turbine engine, components and system components
  - assist with testing of gas turbine engine and engine system operation.

The underlying skills inherent in this unit should be transferable across a range of inspection applications (including the timely involvement of supervisors or other trades) associated with gas turbine engines, components and systems. It is essential that inspection procedures take into account all safety precautions applicable to the system/component being maintained. Ability to interpret system performance specifications (allowable limits) and apply them in practice is critical and shall be demonstrated through application across the range of systems listed in the Assessment Conditions.

Knowledge Evidence

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

- gas turbine engine layout and operation:
  - intakes
  - compressors
  - combustion chambers
  - turbines
  - exhaust
  - thrust reversers
  - accessory drives
  - bearings and seals
  - maintenance requirements
- system and component operation, including electrical and instrument system interfaces:
  - fuel control and fuels

- lubrication and lubricants
- air distribution
- starting
- ignition
- power augmentation
- instrumentation:
  - performance indication
  - condition indication
  - warning
  - presentation and interpretation of electronic displays
- fire warning and extinguishing
- control system
- engine spin/run procedures, including the operation of auxiliary power units (APUs)
- engine condition monitoring
- relevant WHS practices, including the requirements for the lifting and handling of heavy components
- how to obtain MSDS
- selection and use of PPE
- maintenance requirements
- relevant maintenance manuals
- relevant regulatory requirements and standard procedures.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment using tools and equipment specified in maintenance manuals. It is also expected that applicable general-purpose tools, test and ground support equipment found in most routine situations and used to assist in the inspection process would be used where appropriate.
- The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of the unit of competency are being achieved under routine supervision on each of the following systems and at least one (1) component of each system.
  - engine change unit, main components and accessories/drives
  - control system and major system components
  - ignition and starter systems and major system components
  - engine fuel system and major system components
  - oil system and major system components
  - air system and major system components.

- This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.
- Individuals being assessed who have already attained MEA314 Inspect, test and troubleshoot gas turbine engine systems and components, will have fully met the criteria for this unit. Log of Industrial Experience and Achievement records relating to MEA314 Inspect, test and troubleshoot gas turbine engine systems and components may be accepted as also meeting the evidence requirements for this unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371