



Australian Government

Assessment Requirements for MEA719 Evaluate aircraft electrical systems

Release: 1

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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:

- identifying WHS, regulatory and electrical safety requirements, risk management procedures, features and functions of aircraft electrical systems and components, and system design principles and techniques, including:
 - load analysis and operating environment
 - system control
 - indicating and circuit protection requirements
 - interface requirements between the distribution circuits and aircraft hydro-mechanical and avionic systems/system components
- reviewing effects of electricity on humans, dangerous high currents and voltages and automated systems, regulatory requirements related to extra low, low and high voltage applications and relating these to aircraft electrical applications
- determining and confirming:
 - parameters and context of tasks
 - chain of responsibility
 - personal functions and responsibilities
 - team and support functional group interdependencies and communications
 - appropriate qualifications and delegations
 - appropriate support, including technical and professional assistance
- investigating associated CM and ILS requirements and drafting required data
- identifying and drafting data required for compliance with airworthiness regulations
- assessing and applying:
 - basic aircraft electrical system load analysis and design procedures
 - design standards
 - regulatory requirements
 - graphics skills and techniques
- evaluating system components and specifications against system design and operating criteria
- reporting and documenting results of scoping, principles and techniques identification and evaluation of applications, system schematics and wiring diagrams.

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:

- features of aircraft electrical AC and DC systems, control and distribution, circuit protection and lighting system
- interface with aircraft hydro-mechanical systems, such as hydraulic, pneumatic, environmental, anti-ice, flight control and engine control
- interface with avionic systems, such as instrumentation, communications, navigation, pulse, on-board computer systems and in-flight entertainment
- requirements and procedures for electrical system load analysis
- electrical system components and related specifications
- wiring types, standards and specifications, including optical fibre
- operating environment effects
- airworthiness regulator design standards
- compliance requirements of the WHS Act and regulations, codes of practice, standards, risk assessment
- scope of trade, technical and professional support services required in electrical system applications
- management data interface with CM and ILS.

Assessment Conditions

- This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is, the candidate is not in productive work, then a simulated working environment must be used that reflects realistic workplace situations and conditions.
- The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.
- Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.
- Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application.
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process.
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
- Assessors must be satisfied that the candidate can competently and consistently:
 - identify and apply WHS, regulatory and risk management procedures
 - review dangers and effects of electricity on humans
 - determine parameters and context of tasks, personal, team, licensed technical and professional assistance, support personnel functions and responsibilities, and chain of responsibility

- investigate sustainability implications of aircraft electrical system applications as specified in CM and/or ILS requirements
- assess and apply basic aircraft electrical system design and maintenance/repair requirements, software basic analysis and graphics skills and techniques
- evaluate aircraft electrical systems and components for compliance with WHS and airworthiness regulatory requirements
- report and document results including provision of CM and ILS input data.
- Assessment may be in conjunction with assessment of other units of competency where required.
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>