Australian Government

Assessment Requirements for MEA721 Evaluate aircraft hydro-mechanical 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 hydro-mechanical systems and components, and system design principles and techniques, including:
  - performance and operating environment
  - system control
  - indicating and circuit protection requirements
  - interface requirements between aircraft hydro-mechanical systems and other systems, including the electrical power distribution
- 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 hydro-mechanical system performance 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.

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 and layout of aircraft hydro-mechanical systems, including control, indication and interface with other systems:
  - hydraulic power
  - landing gear shock absorbing and retraction
  - brakes
  - nose wheel steering
  - door operation
  - fuel
  - water and waste
- basic design principles for:
  - hydraulic pressure generation and distribution systems and components
  - landing gear shock absorbing struts and retraction systems, including actuators and mechanical linkages
  - brakes and anti-skid systems and system components
  - nose wheel steering systems and system components
  - door operation and locking systems and components/mechanical linkages
  - fuel storage, distribution and management systems, including system components
  - water and waste systems including system components
- interface with the aircraft electrical and instrument systems
- wiring types, standards and specifications
- performance and 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 aircraft hydro-mechanical 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
  - determine parameters and context of tasks, personal, team, technical and professional assistance and support, personnel functions and responsibilities, and chain of responsibility
  - investigate sustainability implications of aircraft hydro-mechanical system applications as specified in CM and/or ILS requirements
  - assess and apply basic aircraft hydro-mechanical system design and maintenance/repair requirements, software basic analysis and graphics skills and techniques
  - evaluate aircraft hydro-mechanical 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