Australian Government

Assessment Requirements for AVIW3038 Operate and manage remote pilot aircraft systems

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation 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 one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting remote pilot aircraft systems (RPAS) displays
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing systematic scan technique for monitoring RPAS, sub-systems (equipment) and devices
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance with workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- undertaking fault finding in RPAS
- using automated systems to manage workload
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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:

- aeronautical decision-making processes relevant to RPAS operations
- effective communication
- error management, including error types, causes and consequences
- fatigue risk management
- human factors relevant to RPAS operations
- human performance and its limitations, including the senses, memory and situational awareness
- normal, minimum and maximum fuel pressures or battery/power levels and power draw
- risk identification, analysis and control
- RPAS as applicable to rating/endorsement requirements:
  - battery/fuel/power system:
    - use of a schematic diagram of battery/fuel/power system to explain layout and normal operating procedures
    - likely faults that may affect battery/fuel/power system
    - emergency operating procedures for battery/fuel/power system
    - operation of /battery/fuel/power selector panel or display
    - use of cross-feed or power distribution
    - fuel-dumping procedures
    - full battery/fuel capacity and fuel grade
  - hydraulic system:
    - use of a schematic diagram of hydraulic system to explain layout and normal operating procedures
    - likely faults that may affect hydraulic system
    - emergency operating procedures for hydraulic system
    - units or services operated by hydraulics
    - type of hydraulic fluid, operating pressure and capacity of reservoir
  - electrical system:
    - use of a schematic diagram of electrical system to explain type/s of electrical system
    - likely faults that may affect electrical system
    - emergency operating procedures for electrical system
    - voltage and amperage of battery or power cell
    - number and output of generators
    - methods of circuit protection

    - location of fuses and circuit breakers
    - precautions to be taken when operating electrical devices
    - instruments and displays operated by electrics
- oil/lubrication system:
    - use of a schematic diagram of oil system to explain functions of oil system
    - likely faults that may affect oil system
    - emergency operating procedures for oil system
    - number of tanks, capacity and oil grade
    - normal, minimum and maximum oil pressure and temperature
    - operation of oil cooling system
- autopilot:
    - principles of operation of autopilot system
    - likely faults that may affect autopilot system
    - emergency operating procedures for autopilot system
    - identification of power sources, voltage or pressure
    - procedure to determine gyros are operating normally
    - procedure to engage autopilot
    - normal and emergency procedure to disengage autopilot
    - limits of gyro units
- anti-icing and de-icing systems:
    - method of de-icing aerofoils, propeller and carburettor
    - heat or power source of de-icing/anti-icing equipment
    - anti-icing and de-icing system limitations and precautions
    - operation and control of anti-icing and de-icing systems
    - likely faults that may affect anti-icing and de-icing systems
    - emergency operating procedures for anti-icing and de-icing systems
- pitot/static system:
    - use of a schematic diagram to explain layout and operation of pitot/static system
    - heating source of pitot system
    - operating procedure for pitot/static system
    - methods of detecting pitot/static system problems
    - procedures to rectify static system problems
    - location of pitot and static pressure source
    - location of static drain points
- detection and avoidance systems:
    - surveillance and collision avoidance functions of detection and avoidance systems
    - system limitations, selectivity and inhibits
    - basic components of detection and avoidance systems
    - identification and demonstration of controls or explanation of function of RPAS control station

- detection and avoidance systems visual displays and symbology
- functions of audio alerts and annunciations
- appropriate crew response to multiple detection and avoidance systems events
- recall of radiotelephone procedures following a detection and avoidance system alert
- requirements for a written report of a detection and avoidance systems alert and to whom it must be submitted

- automated systems:
  - limitations of automated systems
  - operating procedures for systems such as: flight management system, auto throttle/engine/thrust control, flight director system, automated aircraft navigation systems, automated engine condition and monitoring system
  - workload management procedures for utilising automated systems
  - warning systems/indicators to identify automated systems failure
- RPAS checklists:
  - explanation of the normal system operating procedures of RPAS, subsystems and devices used to operate specific RPAS including use of published scans and checklists, immediate action items, warnings, limitations
- stress, workload and time pressure management.

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 workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect 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 simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816