



Australian Government

AVIW0001 Operate and manage advanced remote pilot aircraft systems

Release: 1

AVIW0001 Operate and manage advanced remote pilot aircraft systems

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit involves the skills and knowledge required to operate and manage advanced unmanned aircraft systems (RPAS) beyond visual line of sight (BVLOS) in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes operating and managing aircraft systems during normal flight and managing aircraft systems during abnormal and emergency procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of flight or ground operations personnel and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Operate and manage advanced aircraft systems during normal flight

- 1.1** Aircraft systems, sub-systems (equipment) and devices are operated and managed
- 1.2** Aircraft systems, sub-systems (equipment) and devices are monitored using a systematic scan technique
- 1.3** Aircraft systems and flight environment information is analysed to identify actual and potential threats or errors
- 1.4** Automated aircraft systems are utilised to manage workload
- 1.5** Hazards are identified, risks are assessed and hazard management implemented
- 1.6** Checklist procedures are completed as appropriate to aircraft system

2 Manage advanced aircraft systems during abnormal and emergency procedures

- 2.1** Non-normal or emergency situations are recognised
- 2.2** Control of aircraft flight path is maintained during abnormal and emergency response procedures
- 2.3** Affected aircraft system or sub-system is identified and confirmed
- 2.4** Checklist procedures are implemented during abnormal and emergency situations using appropriate techniques
- 2.5** Appropriate non-normal or emergency procedures are performed in accordance with relevant workplace and emergency procedures, and regulatory requirements
- 2.6** Course of action is decided, implemented, evaluated and revised to achieve safest outcomes
- 2.7** Location and operation of emergency systems applicable to aircraft type are identified

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

No equivalent unit.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIW0001 Operate and manage advanced remote pilot aircraft systems

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical and aircraft systems knowledge
- 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) procedures and relevant regulations
- interpreting aircraft system displays
- interpreting and following operational instructions and prioritising work
- 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
- operating manual and automated aircraft systems
- performing systematic scan technique for monitoring aircraft systems, sub-systems (equipment) and devices
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly in accordance with workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- undertaking fault finding in aircraft systems
- 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 and performance criteria and include knowledge of:

- aircraft systems as applicable to aircraft rating/endorsement requirements
- aircraft system checklists, including:
 - explanation of normal system operating procedures of aircraft systems, sub-systems and devices used to operate specific aircraft type, including use of published scans and checklists, immediate action items, warnings and limitations
- automated systems, including:
 - limitations of automated systems
 - operating procedures for systems, such as flight management system, auto throttle/engine 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
- autopilot, including:
 - 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
- electrical system, including:
 - use of a schematic diagram of the electrical system to explain type/s of electrical system (alternating current (AC)/direct current (DC))
 - likely faults that may affect electrical system
 - emergency operating procedures for electrical system
 - voltage and amperage of battery
 - number and output of generators
 - methods of circuit protection
 - location of fuses and circuit breakers
 - precautions to be taken when operating electrical service
 - instruments operated by electrics
- enhanced ground proximity warning system (EGPWS)/terrain awareness and warning system (TAWS), including:
 - identification and demonstration or explanation of function of all cockpit EGPWS/TAWS controls
 - information terrain awareness display shows

- warnings given by fitted EGPWS/TAWS, including what each warning indicates is happening to aircraft in flight
- fuel system, including:
 - use of a schematic diagram of fuel system to explain layout and normal operating procedures
 - likely faults that may affect fuel system
 - emergency operating procedures for fuel system
 - operation of fuel selector panel
 - use of cross-feed
 - full fuel capacity and fuel grade
 - normal, minimum and maximum fuel pressures
- traffic and collision avoidance systems (TCAS), including:
 - surveillance and collision avoidance functions of TCAS II
 - system limitations, selectivity and inhibits
 - basic components of TCAS II
 - identification and demonstration or explanation of function of cockpit controls
 - TCAS II visual displays and symbology
 - functions of audio alerts and annunciations
 - appropriate crew response to multiple TCAS II events, and parallel runway approach conflicts
 - recall of radiotelephone procedures following a TCAS II alert
 - requirements for a written report of a TCAS II alert and to whom it must be submitted.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 for advanced operation
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and PPE currently used in industry.

Links

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