



Australian Government

AVIW0045 Capture data for operations using remotely piloted aircraft systems

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Modification History

Release	Comments
1	This unit of competency was first released in AVI Aviation Training Package Release 12.0.

Application

This unit involves the skills and knowledge required to operate and manage remote pilot aircraft systems (RPAS) when inspecting infrastructure, modelling and mapping and capturing imagery in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes planning operations, conducting planning and risk management. It also includes acquiring, analysing and storing data.

This unit addresses aviation technical skill requirements and 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 as a single operator or within a team environment.

Licensing/Regulatory Information

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

Pre-requisite unit(s)

No pre-requisite units

Competency field(s)

W - Equipment and Systems Operations

Unit sector(s)

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	Plan operations	1.1	Self-assess own fitness for planned operations
		1.2	Determine aircraft suitability for planned operations
		1.3	Check and assess remotely piloted aircraft and equipment for serviceability prior to commencing flight operations
		1.4	Compile and check maintenance documentation for accuracy and completeness
		1.5	Calibrate equipment and adjust as required
		1.6	Determine energy requirements for planned operations
		1.7	Assess planned operations for potential hazards
2	Conduct planning and risk management	2.1	Develop and follow operations plan according to regulatory requirements and workplace procedures
		2.2	Determine suitability of current and forecast weather conditions
		2.3	Determine site details according to operations plan
		2.4	Confirm operational communications and signals through pre-flight briefing
		2.5	Identify hazards, assess risks and implement controls for planned operations
3	Acquire data	3.1	Develop appropriate aerial plans for conducting safe operations
		3.2	Establish operating boundaries and identify environmentally sensitive areas
		3.3	Identify potential emergency or alternate landing areas as a contingency
		3.4	Consider environmental hazard factors affecting aerial mapping and modelling

		3.5	Conduct aerial operations safely according to the operation's plan
		3.6	Operate aerial equipment according to the required methodology and desired output
		3.7	Assess operating conditions during mapping/modelling activities and respond according to workplace procedures
4	Analyse and store data	4.1	Import selected data into analysis software according to manufacturer instructions and output requirements
		4.2	Evaluate data for preliminary indication of non-conformity, trends or patterns
		4.3	Collate findings from data and report to appropriate persons according to workplace procedures
		4.4	Store data and process documentation according to workplace procedures
		4.5	Check and store data recording equipment according to workplace procedures (or should this be manufacturer instructions)

Range of conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Refer to the AVI Aviation Companion Volume Implementation Guide for non-essential items for this unit of competency.

Assessment Requirements for AVIW0045 Capture data for operations using remotely piloted aircraft systems

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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- assessing and checking aircraft and role equipment for flight serviceability
- assessing own fitness for flight and planned operations
- communicating effectively with others
- completing relevant documentation
- conducting pre-flight operational planning
- determining relevant aircraft type suitability
- developing, amending and modifying data and imagery acquisition
- establishing operational energy requirements for normal and contingency operations
- identifying and correctly using relevant equipment
- identifying potential contingency and alternate landing areas
- interpreting remote pilot aircraft systems (RPAS) displays
- operating electronic communications equipment to required protocol
- performing systematic scan technique for monitoring RPAS, equipment and devices
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- using automated systems to manage workload
- 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:

- aerial data and imagery equipment
- aeronautical decision-making processes relevant to RPAS operations
- applicable regulations relating to conducting a safe aerial mapping and modelling operation
- automated systems
- detection and avoidance systems for RPAS
- difference between search patterns
- effective communication
- energy risk identification, analysis and control
- error management, including error types, causes and consequences
- factors to be considered when determining payload weights for aerial operations
- global navigation satellite system (GNSS) equipment and operator procedures
- human factors relevant to RPAS operations
- meteorological factors affecting aircraft flight performance
- relevant aerodynamics and aircraft performance
- relevant RPAS checklists.

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 it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate 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
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and PPE currently used in industry.

Mandatory Workplace Requirements

Assessment of performance evidence may be in a workplace setting or an environment that accurately represents a real workplace.

Unit Mapping Information

Previous Code and Title	Equivalence	Comments
AVIW0006 Perform infrastructure inspections using remote operated systems	Not equivalent	
AVIW0007 Perform aerial mapping and modelling using remote piloted aircraft systems	Not equivalent	

Links

Companion volumes, including implementation guides, are found on the national training register - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>.