



Australian Government

AVIW0006 Perform infrastructure inspections using remote operated 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.

Application

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

Infrastructure includes but is not limited to electricity pylons, gas pipelines, cables, roads and rail infrastructure.

It includes operating and managing RPAS during normal flight, and managing RPAS 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 RPAS 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 Conduct pre-flight actions

- 1.1** Own fitness for flight and planned operations is self-assessed
- 1.2** Operational aircraft type is determined for suitability for type of aerial infrastructure inspection operation
- 1.3** Aircraft and role equipment are checked and assessed for serviceability prior to commencing flight operations
- 1.4** Required applicable maintenance documentation is compiled and checked for accuracy and completeness
- 1.5** Role equipment calibration is checked and adjusted as required
- 1.6** Planned aerial infrastructure inspection operations are assessed for potential or actual hazards
- 1.7** Fuel/power requirements are determined and established within aerial operational plans
- 1.8** Issues relating to aircraft weight, performance, dimensions, load and meteorological conditions are identified and managed

2 Conduct planning and risk management

- 2.1** Suitability of current and forecast weather is determined
- 2.2** Infrastructure inspection plan is developed and used as the basis for aerial application operations
- 2.3** Potential and actual hazards and operational requirements are identified, risks to aerial infrastructure inspection operations are assessed and appropriate risk controls implemented in accordance with the application management plan
- 2.4** Area map is correctly interpreted
- 2.5** Acceptable aircraft performance for aerial infrastructure inspection operational conditions is confirmed through performance planning

- 2.6** Normal and abnormal operational communications and signals are confirmed
- 3 Conduct aerial mapping and modelling**
- 3.1** Appropriate aerial survey plans are developed for conducting safe aerial mapping and modelling operations
- 3.2** Operating area boundaries are established and environmentally sensitive areas identified, including areas that are noise sensitive, biologically susceptible, populated and urban, and restricted or dangerous
- 3.3** Potential emergency or alternate landing areas are identified and/or established for contingency operations
- 3.4** Environmental hazard factors affecting aerial mapping and modelling operations are considered
- 3.5** Wind velocity and direction are assessed for effect on operations
- 3.6** Infrastructure inspection operations is conducted safely in accordance with the application management plan
- 3.7** Infrastructure inspection equipment is operated within scope of the plan
- 3.8** Decisions to suspend or continue safe aerial infrastructure inspection are taken based on planned or actual operating conditions
- 3.9** Power lines within and outside the treatment area during an aerial survey are identified and accurately assessed to support safe operations in vicinity of power lines, including safe flying parallel to wires
- 4 Perform infrastructure inspections**
- 4.1** Infrastructure and condition assessment criteria are verified and understood prior to the inspection
- 4.2** Data capture process is selected based on the type of infrastructure
- 4.3** Various types of structural failures are recognised and recorded
- 4.4** Infrastructure data and records are provided in accordance with client requirements

Foundation Skills

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

Range of Conditions

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

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>