



Australian Government

AVIH3018A Navigate remote pilot aircraft (RPA)

Release: 1

AVIH3018A Navigate remote pilot aircraft (RPA)

Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to navigate a remote pilot aircraft (RPA) including completing pre-flight planning; navigating under normal and abnormal conditions; and carrying out emergency procedures. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Work must be carried out in compliance with the relevant licence and remote pilot aircraft (RPA) rating requirements of the Civil Aviation Safety Authority (CASA) and/or ADF; airspace control requirements and Day Visual Flight Rules (Day VFR); and RPA control principles, regulations, safety codes, protocols and procedures related to the navigation of a RPA.

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

Use for ADF Aviation is to be in accordance with relevant Defence Orders and Instructions and applicable CASA compliance.

Work is performed under limited supervision.

Licensing/Regulatory Information

Remote Pilot Licence (RPL) Basic – Level 1

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | |
|------------------------------------|---|
| 1 Prepare chart and flight plan | 1.1 Charts suitable for the intended operation are selected and prepared

1.2 Pre-operations information is obtained, analysed and applied

1.3 Hazards are marked on charts where applicable |
| 2 Comply with airspace procedures | 2.1 Air traffic clearances are obtained and compliance with them is maintained, if applicable

2.2 Compliance is maintained with airspace procedures

2.3 Controlled airspace is only entered with a clearance |
| 3 Conduct departure procedures | 3.1 Remote pilot station is organised to ensure access to essential information

3.2 Departure administration and communication is conducted

3.3 Orientation is always maintained

3.4 Priority is given to controlling the RPA before conducting navigation and communication

3.5 Lookout is maintained using a systematic scan technique

3.6 Local and published noise abatement requirements and curfews are observed |
| 4 Maintain RPA in operational area | 4.1 Planned route is maintained in accordance with regulatory requirements and procedures

4.2 Communication is completed in accordance with regulatory requirements and workplace procedures

4.3 Endurance is monitored and reserves are revised

4.4 Pre-descent or navigation turning point checks are executed |

- 4.5 Separation with air traffic is maintained
- 4.6 Emphasis is placed on controlling the RPA before conducting navigation and communication
- 4.7 Deteriorating meteorological situations are recognised and early corrective action is taken
- 4.8 Lookout is maintained using a systematic scan technique
- 5 Navigate to maintain visual line of sight
 - 5.1 Visual line of sight is maintained
 - 5.2 Awareness of current and forecast weather conditions is maintained
 - 5.3 Lookout is maintained using a systematic scan technique
 - 5.4 Hazards and threats are identified and avoided
 - 5.5 Effects of wind velocity, adverse environmental conditions (e.g. setting sun) and contingency actions are planned where appropriate
 - 5.6 Situational awareness is maintained at all times
- 6 Perform lost communication procedure
 - 6.1 Emotional stability is maintained
 - 6.2 RPA executes pre-set lost communications profile
 - 6.3 Ensure that fail-safe mechanism activated, as appropriate
- 7 Execute arrival procedures
 - 7.1 Arrivals procedures are executed in accordance with operations manual
 - 7.2 Lookout is maintained using a systematic scan technique
 - 7.3 Situation awareness is maintained
 - 7.4 Local and published noise abatement requirements and curfews are observed

Required Skills and Knowledge

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- In ADF context, relevant Defence Orders and Instructions
- Relevant OH&S and environmental procedures and regulations
- The characteristics of different chart types
- Factors affecting RPA endurance
- Air navigation techniques, as applicable to RPA
- Chart reading techniques
- Identification of CTA, CTR, Prohibited, Restricted and Danger areas
- The principles of operation of navigation systems
- The limitations of navigation systems
- Controlled airspace requirements
- The potential impacts of specific weather phenomena on RPA operations

Required skills:

- Perform the navigational functions within the parameters of the applicable regulations, orders and operations manual procedures
- Prepare charts, as required
- Maintain compliance with regulatory requirements
- Source and interpret aviation weather forecast products and services as appropriate
- Monitor endurance
- Apply air safety practices and regulations
- Interpret and follow operational instructions and prioritise workload
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when navigating RPA
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when navigating RPA in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when navigating RPA
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the navigation of a RPA
- Monitor and anticipate operational problems and hazards and take appropriate action
- Monitor work activities in terms of planned schedule
- Modify activities dependent on differing workplace contingencies, situations and environments
- Work systematically with required attention to detail without injury to self or others, or

damage to goods or equipment

- Adapt to differences in equipment and operating environment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required to navigate a RPA

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Tasks must be undertaken in:	• visual line of sight, with prevailing weather conditions in accordance with Day Visual Flight Rules
Performance may be demonstrated in:	• single engine RPA • multi engine RPA • variable flight situations • abnormal situations
Aircraft may include:	• Remotely Piloted Aircraft (RPA)/Unmanned aircraft
Crew may include:	• Remote Pilot • Observers
Instruments may be:	• fitted flight instruments • those included in the applicable ground control station
Limitations may be imposed by:	• airspace endorsements
Class of airspace must be:	• in Class G airspace as designated by the regulator and may be in: • restricted and danger areas • military control zones
Navigation aids may include electronic, mechanical and/or radio systems such as:	• Surface Radar • GPS (Global Positioning System) • FMS (Flight Management Systems) • computer based map displays
Operation of navigation aids/systems may include:	• normal mode • degraded mode
Circuit procedures may include:	• those applicable to launch and recovery of a RPA
Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • established procedures • standard operating procedures
Information/documents may include:	• relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders pertaining to the navigation of an RPA • in ADF context, relevant Defence Orders and Instructions • Flight Manual • Manual of Standards • Australian Aeronautical Publication (AIP)

- Applicable regulations and legislation may include:
- En Route Supplement Australia (ERSA) or equivalent
 - charts
 - operations manuals
 - approved checklists
 - workplace procedures and instructions and job specification
 - induction and training materials
 - conditions of service, legislation and industrial agreements including workplace agreements and awards
 - relevant Bureau of Meteorology, International Civil Aviation Organisation (ICAO) and/or World Meteorology Organisation (WMO) publications
 - relevant Civil Aviation Safety Regulations and Civil Aviation Orders
 - in ADF context, relevant Defence Orders and Instructions
 - relevant state/territory OH&S legislation
 - relevant state/territory environmental protection legislation
 - relevant Australian Standards
- Performance includes tolerances specified in either of:
- relevant licence and RPA rating requirements of the Civil Aviation Safety Authority (CASA) such as:
 - Manual of Standards
 - relevant Defence documentation such as:
 - Defence Orders and Instructions

Unit Sector(s)

Not applicable.

Competency field

H - Route Planning and Navigation