



Australian Government

RIIARO302 Work safely with remotely piloted aircraft systems

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to work safely with remotely piloted aircraft systems (RPAS) in the resources and infrastructure industries, and other industries with relevant work practices and procedures, including carrying out work activity involving operating RPAS and required sub-systems and devices and conducting risk assessments. It is intended to be delivered in compliance with relevant Civil Aviation Safety Authority (CASA) regulatory requirements and national operating standards.

It applies to those working in site-based roles. They generally work under minimal supervision to undertake a broad range of tasks in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures. It is intended for those who hold a remote pilot licence (RePL).

Licensing, legislative, registration and certification requirements that apply to this unit can vary between states, territories and industry sectors, and depend on the size and type of RPAS. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Coal mining

Drilling

Extractive

Metalliferous mining

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to work safely with	1.1 Obtain, interpret, confirm and clarify work instructions 1.2 Access, interpret and apply documentation required to work safely

ELEMENT	PERFORMANCE CRITERIA
RPAS	with remotely piloted aircraft systems (RPAS) and confirm work activity is compliant 1.3 Select and wear personal protective equipment according to site requirements 1.4 Obtain permits and clearances according to legislative, job and site requirements 1.5 Check and confirm condition of RPAS and required sub-systems meets job and site requirements 1.6 Check and confirm surface and atmospheric conditions of work area are safe to operate RPAS according to manufacturer specifications and site requirements 1.7 Identify potential risks and hazards, implement control measures within scope of own role, and escalate where required 1.8 Obtain and interpret emergency procedures, develop contingency plans and identify steps required to respond to emergencies
2. Carry out work activity using RPAS	2.1 Identify and communicate fatigue risks to required personnel according to legislative and site requirements 2.2 Coordinate RPAS operation with required personnel within scope of own role 2.3 Operate and monitor RPAS and required sub-systems and devices according to manufacturer specifications and job and site requirements 2.4 Monitor risks and hazards, implement control measures within scope of own role, and escalate where required 2.5 Report on monitoring systems and alarms according to site requirements and respond within scope of own role, and escalate where required 2.6 Complete RPAS operation according to manufacturer specifications and job and site requirements 2.7 Complete records and documentation according to site requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Oral communication	Uses listening and questioning to clarify and confirm understanding
Self-management	Monitors and minimises own exposure to worksite risks and hazards

SKILL	DESCRIPTION
	during work activities
Technology	• Uses digital technologies and applications to access, organise and share information

Unit Mapping Information

No equivalent unit. New unit.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIARO302 Work safely with remotely piloted aircraft systems

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- carry out work activity with a remotely piloted aircraft system (RPAS) on at least two occasions.

During the above, the candidate must:

- locate and apply legislation, documentation, policies and procedures required to work safely with RPAS
- implement the requirements, procedures and techniques to work safely with RPAS, including:
 - interpreting and applying work health and safety requirements and work instructions
 - identifying, monitoring and reporting risks and hazards
 - applying required measures for minimising, controlling or eliminating identified hazards, including:
 - Bowtie Risk model
 - industry recognised operational risk assessment (ORA)
 - adjusting work activity according to identified operational risks and hazards
 - responding to or reporting on monitoring systems and alarms
- work with others to safely carry out work activity with RPAS in a way that meets required outcomes, including:
 - communicating with others to receive and clarify work instructions and convey work progress
 - coordinating work activity with others using multiple communication devices.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to work safely with RPAS
- policies, procedures and documentation required to work safely with RPAS including those relating to:
 - beyond visual line of sight (BVLOS)
 - fatigue risk management
 - hazard, incident and emergency response procedures
 - land heights and above ground level (AGL) RPAS altitude compliance
 - night operations
 - licensing and regulatory requirements
 - workplace recording and reporting requirements
 - RPAS and component manufacturer specifications
 - site safety signage, alarms and systems
 - standard operating conditions
 - obtaining permits and clearances
 - underground operations
 - work health and safety
 - manufacturer specifications
 - site requirements
- types, characteristics, technical capabilities and limitations of RPAS and components, including:
 - battery management, identification and charging
 - emergency procedures
 - modifications
 - operating procedures
 - power status indicators
- types, characteristics and risks of common hazards, including:
 - dust
 - firmware updates
 - GPS failure
 - high winds
 - wildlife
- principles and techniques for risk and hazard management of RPAS, including:
 - Bowtie Risk model
 - industry recognised operational risk assessment (ORA)
- techniques for systematic scanning
- techniques for determining above ground level (AGL)
- techniques for manually controlling RPAS
- key terminology for RPAS, components and operations, including those specific to relevant sector, organisation and manufacturer
- techniques for coordinating and communicating work activities with others.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - RPAS
 - personal protective equipment
 - equipment required to work safely with RPAS
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector/Unit sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure****	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure****	3-6	3 years
Units coded 'RIIARO' (Autonomous and Remote Operations)	Given that this is an emerging industry area, assessors are required to demonstrate vocational competencies at least to the level being assessed, and current industry skills directly relevant to the assessment being provided.	
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

***While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

****Excluding units coded 'RIIARO' (Autonomous and Remote Operations).

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