



Australian Government

AVIE0003 Operate aeronautical radio

Release: 1

AVIE0003 Operate aeronautical radio

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 an aeronautical radio in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes operating radio equipment and managing radiotelephone equipment malfunctions.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aeronautical radio operator duties of aviation 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, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

E – Communication and Calculation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

- | | | |
|---|------------|--|
| 1 Operate radio equipment | 1.1 | Serviceability of radio equipment is confirmed |
| | 1.2 | Transmission and receipt of radio communications is conducted using appropriate procedures and phraseology |
| | 1.3 | A listening watch is maintained and applicable transmissions are responded to appropriately |
| | 1.4 | Appropriate emergency and urgency transmissions are conducted |
| 2 Manage radiotelephone equipment malfunctions | 2.1 | Radio failure procedures are performed as required |
| | 2.2 | Fault-finding procedures and corrective actions not involving special tools or instruments are employed |

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

This unit replaces and is equivalent to AVIE0001 Operate aeronautical radio.

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 AVIE0003 Operate aeronautical radio

Modification History

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

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 relevant legislation and workplace procedures
- communicating effectively under operating conditions using aviation radio telephony phraseology and communication protocols
- completing relevant documentation
- complying with regulatory requirements pertaining to aircraft radiotelephone communications
- conducting basic fault finding of defective radiotelephone equipment
- confirming serviceability of radio telephony equipment
- identifying and correctly using equipment required to maintain aircraft radio communication
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting and reacting appropriately to light signals from air traffic control
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and rectifying identified problems that may occur operating an aeronautical radio promptly
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- using Aviation English Language to a proficiency standard required by national aviation safety regulations
- 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:

- characteristics of radio waves, wave propagation, transmission and reception, including:
 - radio frequency band ranges (medium frequency (MF), high frequency (HF), very high frequency (VHF) and ultra-high frequency (UHF))
 - properties of radio waves
 - propagation of paths of radio waves:
 - ground waves
 - sky waves
 - factors affecting the propagation of radio waves:
 - terrain
 - ionosphere
 - sun spot activity
 - interference from electrical equipment
 - thunderstorms
 - power attenuation
 - radio antennas:
 - characteristics of antennas
 - use of antennas
- components of aeronautical radio systems, including:
 - power source or battery switch, radio master and microphone
 - transmitter
 - receiver
 - antenna
 - location of aerial antennas in buildings
 - headphones and speaker
 - procedures for using an aeronautical radio system
 - setting up an aeronautical radio
 - use of radio transmit and receive selector switches (VHF, HF, intercom (I/C) and public address (PA))
 - turning a radio on and off
 - selecting correct frequencies
 - use of squelch control
 - correct use of a microphone
- documented radio procedures relevant to the visual flight rules (VFR)
- fault-finding procedures and corrective actions for radiotelephone equipment not involving special tools or instruments
- faults that may occur in radiotelephone equipment and appropriate fault detection and remedial action that can be taken
- international radio telephony distress frequencies
- light signals, including interpretation and actions required

- phonetic alphabet
- principles of effective radiotelephony communications
- problems that may occur during aeronautical radio communications and action that can be taken to overcome them
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders pertaining to aeronautical radio communications
- relevant WHS and environmental procedures and regulations
- responsibilities of an aeronautical radio operator, including:
 - secrecy of communications
 - unauthorised transmissions
- standard radiotelephony phraseology.

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 processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant materials, tools, equipment and PPE currently used in industry.
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment

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>