



Australian Government

AVIY0043 Monitor flight performance

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 monitor flight performance in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and international aviation operating standards.

It includes maintaining a flight watch, maintaining aviation communication and data links, managing routine and emergency airborne situations, and identifying and assessing aviation ground resources.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight dispatch and flight operations support personnel and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of recreational, 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

Y – Aircraft Operations and Traffic Management

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 Maintain a flight watch

- 1.1** Aircraft fuel requirements for flight completion are continuously monitored and re-calculated as required
- 1.2** Fuel remaining until exhaustion is continuously monitored and re-calculated as required
- 1.3** En route meteorological conditions at altitude and adjacent altitudes are monitored and advised to flight crew as required
- 1.4** Estimated time of arrival (ETA) for position fixes and destination is updated based on fuel requirements, aircraft performance, prevailing meteorological conditions and flight crew advice
- 1.5** Departure, position reports and arrival information are monitored, maintained and updated within relevant operational flight logs
- 1.6** Effects on ETA at destination, including passenger connections and curfews, are evaluated when implementing contingency plans
- 1.7** Fatigue management policies and procedures are applied to crew endurance when implementing contingency plans

2 Maintain aviation communication and data links

- 2.1** Voice and data communication links with air traffic services are monitored and maintained throughout flight support activities using a range of appropriate transmitting and receiving methods and protocols
- 2.2** Voice and data communication links with operating aircraft are monitored and maintained throughout flight support activities using a range of appropriate transmitting and receiving methods and protocols
- 2.3** Voice and data communication links with emergency response agencies are monitored and maintained throughout flight support activities using a range of appropriate transmitting and receiving methods and protocols
- 2.4** Authorised aviation radio telephony procedures are used during all voice communications with air traffic services, operating aircraft and emergency response

- agencies
- 2.5 Aircraft position information and reports are routinely monitored and updated using aircraft voice and data communication links within flight support monitoring systems
 - 2.6 Aircraft communication links are continuously monitored and appropriate voice and data communication failure response plans implemented
- 3 Manage routine airborne situations**
- 3.1 Aircraft performance, including the limitations imposed by minimum equipment list (MEL) restrictions, is continuously monitored
 - 3.2 Effects of air traffic service reroutes are identified and appropriate courses of action developed
 - 3.3 Unanticipated severe weather penetration effects are evaluated against flight plan and amendments advised to flight crew
 - 3.4 High terrain transit performance calculations and effects on flight performance are advised to flight crew
 - 3.5 Effects of identified moderate or severe icing conditions not known to air traffic services are evaluated
 - 3.6 Flight crew are advised of changes to planned flight conditions and updated about relevant operational information to maintain flight performance and aircraft safety
- 4 Manage emergency airborne situations**
- 4.1 Overdue position reports are responded to in accordance with regulatory and workplace requirements
 - 4.2 Overdue at destination response actions are implemented in accordance with regulatory and workplace requirements
 - 4.3 Contingency plans for aircraft fuel exhaustion are implemented and coordination with air traffic services and emergency response agencies maintained
 - 4.4 Aircraft in-flight fires are responded to in accordance with regulatory and workplace requirements
 - 4.5 Loss of aircraft engine/s is responded to in accordance with regulatory and workplace requirements

- 4.6 Unlawful interference with aviation and aircraft flight safety is identified and managed in accordance with regulatory and workplace requirements
 - 4.7 Incapacitation of flight crew member/s is identified and contingency actions advised to maintain flight performance and aircraft safety
 - 4.8 Ditching and emergency landing procedures are implemented during aircraft emergency situations
 - 4.9 Coordination and liaison with search and rescue (SAR) agencies are maintained during aircraft emergency situations
- 5 **Identify and assess aviation ground resources**
 - 5.1 Aircraft maintenance support requirements are identified and assessed for routine and emergency situations
 - 5.2 Performance engineering requirements are identified and assessed for routine and emergency situations
 - 5.3 Aviation medical support requirements are identified and assessed for routine and emergency situations
 - 5.4 Aviation security and law enforcement support requirements are identified and assessed for routine and emergency situations
 - 5.5 Operating aerodrome capabilities and support requirements are identified and assessed for routine and emergency situations
 - 5.6 Aviation ground support requirements are identified and assessed for routine and emergency situations
 - 5.7 Passenger service and support requirements are identified and assessed for routine and emergency situations
 - 5.8 Meteorological conditions and effects are identified and assessed for routine and emergency situations

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 AVIY0012 Monitor flight performance.

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 AVIY0043 Monitor flight performance

Modification History

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Performance 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 on at least one occasion and include:

- adapting to differences in equipment 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
- communicating and negotiating effectively with others
- completing documentation related to work activities
- identifying and correctly using flight support equipment, processes and procedures
- implementing and managing contingency plans for unanticipated and routine airborne situations, including:
 - aircraft fuel consumption variations
 - aircraft performance calculations and variations
 - effects of air traffic reroutes
 - effects of flight diversion over different terrain
 - unanticipated meteorological conditions, including icing conditions
- implementing and managing contingency plans for unanticipated and emergency airborne situations, including:
 - overdue position report
 - overdue at destination
 - fuel exhaustion
 - inability to communicate with aircraft
 - continuing to operate in unsafe conditions
 - in-flight fire
 - loss of engine/s
 - loss of cabin pressure
 - security threat
 - incapacitation of flight crew member
 - ditching/emergency landing
 - rescue coordination

- government/air traffic control (ATC) coordination and notification
- unlawful interference with aviation
- interpreting and following operational instructions and prioritising work
- maintaining aviation communications and data links, including:
 - data communications:
 - transmission control protocol (TCP)/internet protocol (IP)
 - high frequency (HF)
 - satellite
 - voice communications:
 - mobile telephony
 - very high frequency (VHF)
 - ultra-high frequency (UHF)
 - HF
 - radio over IP (ROIP)
 - satellite
- modifying activities depending on differing operational dispatch contingencies, risk situations and environments
- monitoring flight performance, including:
 - fuel consumption
 - en route weather, including winds
 - aircraft performance, including the limitations imposed by minimum equipment list (MEL) restrictions
 - in-flight equipment failures
 - security problems
 - effects of and on hazardous materials
 - restricted articles
 - perishable cargo
- operating electronic communications equipment to required protocol
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and documenting unlawful interference with aviation
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- responding appropriately to cultural differences in the workplace
- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS) standards
- taking action to manage unlawful interference with aviation
- working collaboratively with others when managing disruptive and unlawful behaviour within aviation operating environments
- 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:

- aeronautical fixed service, including:
 - message format
 - national practical fixed network:
 - Aeronautical Fixed Telecommunication Network (AFTN)
 - Société Internationale de Télécommunications Aéronautiques (SITA)
- aeronautical mobile service, including:
 - VHF band frequency utilisation
 - phonetic alphabet
 - standard words
 - call signs
 - abbreviations
 - communications
 - priorities:
 - distress
 - urgency
 - traffic
 - practical operations
- automated aeronautical service, including:
 - telecommunications service
 - flight weather (VOLMET)
 - VHF
 - HF
 - automatic terminal information service (ATIS)
- applying relevant aeronautical knowledge to flight monitoring services
- aviation risk management processes
- contingency planning considerations for unanticipated and routine airborne situations, including:
 - aircraft fuel consumption variations
 - aircraft performance calculations and variations
 - effects of air traffic reroutes
 - effects of flight diversion over different terrain
 - unanticipated meteorological conditions (including icing conditions)
- contingency planning considerations for unanticipated and emergency airborne situations, including:
 - overdue position report
 - overdue at destination

- fuel exhaustion
- inability to communicate with aircraft
- continuing to operate in unsafe conditions
- in-flight fire
- loss of engine/s
- loss of cabin pressure
- security threat
- incapacitation of flight crew member
- ditching/emergency landing
- rescue coordination
- government/ ATC coordination and notification
- elementary radio theory, including:
 - amplitude
 - frequency
 - period
 - wavelength
 - electromagnetic (EM) wave
 - sound wave
 - EM spectrum
 - radio spectrum:
 - very low frequency (VLF)
 - low frequency (LF)
 - medium frequency (MF)
 - HF
 - VHF
 - ultra-high frequency (UHF)
 - propagation of radio waves
 - skip distance and hops
 - D, E and F layers
 - aerials:
 - polar diagrams
 - Figure 8
 - cardioid
 - modulation:
 - AM
 - FM
 - sidebands: single side band (SSB) and double side band (DSB)
 - elementary radio transmit/receive (TX/RX)
- en route weather changes, including:

- winds
- en route alternate terminal weather, including extended operations (ETOPS)
- turbulence
- icing
- weather reroutes initiated by flight dispatch
- fatigue risk management processes
- flight equipment failures, including:
 - effect on performance:
 - potential for diversion
 - effect on subsequent flights
 - availability of maintenance at diversion aerodrome:
 - effect on other systems
 - ETOPS considerations
 - emergency potential
- flight monitoring resources — position reports, including:
 - company radio:
 - Aeronautical Radio Incorporated (ARINC) reports
 - commercial radio net reports
 - aircraft situation display (ASD)
 - departure station reports
 - destination station reports
 - ATC reports
 - satellite communications (SATCOM)
- flight watch requirements, including:
 - aircraft position fixes and reporting requirements
 - en route weather and wind monitoring
 - estimated time of arrival (ETA) calculations
 - fuel performance calculations for routine and emergency airborne situations
- identification of methods and procedures for managing unlawful interference with aviation as a flight dispatcher, including:
 - taking control of an aircraft by force, or threat of force, or any other form of intimidation or by any trick or false pretence
 - destroying an aircraft that is in service
 - causing damage to an aircraft that is in service that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk
 - doing anything on board an aircraft that is in service that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk
 - placing, or causing to be placed, on board an aircraft that is in service, anything that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk
 - putting the safety of aircraft at risk by interfering with, damaging or destroying air navigation facilities

- putting the safety of an aircraft at risk by communicating false or misleading information
- committing an act at an airport, or causing any interference or damage, that puts the safe operation of the airport, or the safety of any person at the airport, at risk
- international aeronautical telecommunications service, including:
 - fixed
 - mobile radio navigation service
 - broadcasting telecommunications service
- radio navigation service, including:
 - standard navigation aids
 - operational objectives:
 - CAT I
 - CAT II
 - CAT III
 - instrument landing system (ILS)
 - ground-controlled approach (GCA)
 - VHF omni-directional range (VOR)/distance measuring equipment (DME)
 - non-directional beacon (NDB) and directional finding (D/F)
- relevant state/territory regulations and requirements
- relevant WHS and environmental protection procedures and guidelines
- risks and hazards when monitoring flight performance and related actions to control the risk.

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 this is not appropriate, assessment must occur in simulated workplace operational situations that reflect 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
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and PPE currently used in industry.

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