



Australian Government

AVIF0031 Manage threats and errors as pilot in command

Release: 1

AVIF0031 Manage threats and errors as pilot in command

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 manage threats and errors as pilot in command (PIC) in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes recognising and managing actual and potential threats, recognising and managing actual and potential errors, recognising and managing undesired aircraft states, making effective decisions, and reporting and recording operational occurrences.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) for a PIC 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 without supervision within a multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Recognise and manage actual and potential threats

- 1.1** Potential environmental or operational threats likely to affect flight safety are identified
- 1.2** Actual environmental or operational threats that affect flight safety are identified
- 1.3** Competing operational priorities and task demands that may represent a threat to flight safety flight are identified
- 1.4** Effective decisions are made to manage actual and potential threats, and countermeasure tasks are identified and allocated to appropriate flight crew members
- 1.5** Flight progress and effect of countermeasures are monitored and assessed to ensure a safe outcome
- 1.6** Alternative countermeasures are identified and implemented, and countermeasures are re-evaluated for effectiveness

2 Recognise and manage actual and potential errors

- 2.1** Checklists and standard operating procedures (SOPs) are implemented to prevent aircraft handling, procedural or communication errors
- 2.2** Committed errors are identified and responded to before aircraft enters an undesired state
- 2.3** Aircraft systems are monitored using a systematic scan technique to collect and analyse flight information for potential or actual error recognition purposes
- 2.4** Flight operating environment is monitored to collect and analyse flight information for potential or actual error recognition purposes
- 2.5** Team performance is monitored to recognise potential or actual error occurrence
- 2.6** Effective decisions are made to manage actual and potential errors, and countermeasure tasks are identified and allocated to appropriate flight crew members before aircraft enters an undesired state
- 2.7** Effective decisions are made to manage actual and potential errors, and countermeasure tasks are identified and allocated to appropriate flight crew members to

- correct errors after aircraft enters an undesired state
- 3 Recognise and manage undesired aircraft states**
- 3.1** Undesired aircraft states are recognised
- 3.2** Effective decisions are made to manage undesired aircraft states, and countermeasure tasks are allocated and prioritised to ensure an undesired aircraft state is managed effectively
- 3.3** Corrective actions to recover an undesired aircraft state are applied in a safe and timely manner
- 4 Make effective decisions**
- 4.1** Relevant, current and sufficient information is gathered to assess and analyse situation for decision making
- 4.2** Problem-solving strategies and techniques are used to identify and generate options
- 4.3** Decisions are made and communicated to flight crew and implemented in a timely manner in accordance with regulatory requirements and workplace procedures
- 4.4** Decisions and actions are evaluated for their effectiveness and positive outcomes
- 4.5** Decisions, their rationale and associated actions are documented and reported in accordance with regulatory requirements and workplace procedures
- 4.6** Operational decisions and actions taken to manage threats and errors are reported and recorded in accordance with appropriate workplace procedures and regulatory 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

This unit replaces and is equivalent to AVIF0009 Manage threats and errors as pilot in command.

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 AVIF0031 Manage threats and errors as pilot in command

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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, performance criteria and range of conditions on at least one occasion and include:

- actively listening to others in the operational environment
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- delegating duties and tasks
- determining and implementing appropriate countermeasures
- giving and receiving instructions related to implementing threat and error management (TEM) strategies
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- maintaining situational awareness
- modifying activities depending on operational contingencies, risk levels and environments
- operating and adapting to differences in communications equipment in accordance with standard operating procedures (SOPs)
- planning own work, predicting consequences and identifying improvements
- reading, interpreting and following relevant instructions, procedures, information and signs
- reporting and rectifying identified problems, faults or malfunctions promptly in accordance with workplace procedures
- responding appropriately to cultural differences in the workplace
- responding to feedback from other flight or ground crew
- supervising others when implementing TEM strategies
- working collaboratively with others
- 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, performance criteria and range of conditions and include knowledge of:

- application of situational awareness to identify real or potential environmental or operational threats to aviation safety
- aspects of multi-crew operations that can prevent an undesired aircraft state
- multi-crew operational threats must including:
 - events or errors that:
 - occur outside the influence of the flight crew
 - increase the operational complexity of the flight
 - require crew attention and management if safety margins are to be maintained
- undesired aircraft states including:
 - incorrect aircraft systems configuration associated with a reduced margin of safety
 - inappropriate flight mode awareness and selection
 - misapplication of flight controls
 - pilot induced aircraft position
 - pilot induced speed deviation
- effective communication during normal, abnormal and emergency situations
- leadership and supervision strategies
- recognition techniques and management strategies for:
 - actual and potential threats
 - actual and potential errors
 - undesired aircraft states
- errors including:
 - individual or group actions or inactions that:
 - lead to a deviation from individual, group or organisational intentions or expectations
 - reduce safety margins
 - increase the probability of adverse operational events on the ground and/or during flight
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders related to TEM
- removing and mitigating threats
- removing and mitigating errors
- safety philosophies
- task management, including:
 - workload organisation and priority setting to ensure optimum safe outcome of the flight
 - event planning, in a logical and sequential manner
 - anticipating events to ensure sufficient opportunity is available for completion
 - using technology to reduce workload and improve cognitive and manipulative activities
 - task prioritisation and protection while filtering and managing real time information
- TEM model, including:

- principles and components of TEM
- definition of threats
- definition of errors
- undesired aircraft states
- TEM countermeasures.

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 personal protective equipment (PPE) currently used in industry.

Links

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