Australian Government

Department of Education, Employment and Workplace Relations

AVIM5001A Operate a simulator

Revision Number: 1

AVIM5001A Operate a simulator

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor This unit involves the skills and knowledge required to operate a simulator including safe operation, pre-operation planning, simulation activity control, post-operation activity and administration. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

This unit has application for the safe operation of simulators in the workplace.

Use for ADF Aviation is to be in accordance with relevant Defence Orders and Instructions and applicable Civil Aviation Safety Authority (CASA) compliance.

Work is performed under various levels of supervision dependent on workplace context, and in a team environment.

This unit of competency is nominally packaged at Diploma.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability Skills 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

ELEMENT	PERFORMANCE CRITERIA
1 Apply simulation operations safety	1.1 Access and egress to simulator is conducted in accordance with workplace procedures
	1.2 Safety and emergency procedures are communicated and actioned as required
	1.3 Simulator serviceability is monitored in accordance with workplace procedures
	1.4 Simulation sickness effects are communicated in accordance with workplace procedures
	1.5 Simulation sickness effects are treated in accordance with workplace procedures
	1.6 Workplace safety communications are followed in accordance with workplace procedures
2 Conduct pre-operation planning	2.1 Appropriate simulation equipment is selected
	2.2 Simulation equipment is employed
	2.3 Operating manuals are used to support work practices
	2.4 Simulation data is accessed to suit work practices, in accordance with workplace procedures
	2.5 Simulation data is manipulated to suit work requirements, in accordance with workplace procedures
	2.6 Simulation data is saved in accordance with workplace procedures
	2.7 Simulation data is stored to suit work requirements, in accordance with workplace procedures
3 Control a simulation activity	3.1 Liaison with relevant personnel is conducted to determine simulation activity requirements
	3.2 Simulation activity plan is developed in accordance with activity requirements
	3.3 Simulation activity is commenced
	3.4 Communication with simulation activity participants is maintained
	3.5 Abnormal/unusual conditions are monitored and addressed
	3.6 Variations to activity conditions are made as requested/required
	3.7 Activity is ceased in accordance with simulation activity plan
4 Perform post-operation activities	4.1 Simulation results are saved in accordance with workplace procedures
	4.2 Activity participants are debriefed as required
	4.3 Simulator faults are recorded in accordance with workplace procedures
	4.4 Simulation equipment is refurbished/maintained in accordance

ELEMENT **PERFORMANCE CRITERIA**

with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- Relevant OH&S and environmental procedures and regulations applicable to simulation operations and personnel safety
- Broad knowledge of the application of simulation and synthetic activities including live, virtual and constructive (LVC) simulations
- Broad knowledge of information communication technology within the simulation and synthetic environment
- Established procedures applicable to simulation operations
- Abnormal conditions, including hardware, software and equipment malfunction/failure and poor/unusual participant performance
- The effects of simulation sickness
- Functions of single-user, multi-user and distributed user operating systems
- Documentation production and safe storage
- Basic database management

Required skills:

- Read, comprehend and interpret written technical English
- Select and employ simulation equipment
- Apply fine physical motor skills
- Coordinate activities that involve a range of complex tasks
- Create and store documents using information communication technology
- Coordinate information communication technology related activities
- Demonstrate briefing/debriefing skills

Evidence Guide

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 • communicating safety and emergency procedures • communicating simulation sickness effects • manipulating, saving and storing simulation data in accordance with workplace procedures • monitoring and addressing abnormal/unusual conditions • recording simulator faults • refurbishing/maintaining simulator equipment in accordance with workplace procedures
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

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.

Access and egress may include:	• appropriate and safe entry to simulator in accordance with organisation's OH&S and security policies • appropriate and safe exit methodologies from simulators • interpretation of signage, safety warnings and simulator status • monitoring access of visitors to simulator and providing safety/security briefs as required
Simulator may include	• full motion simulator • flight training device • synthetic training device • virtual reality training system • single, multiple or team operator simulator • simulator • part-task simulator • desktop simulator • operating system • associated simulator computer hardware and software
Workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • standard operating procedures • manufacturers guidelines • established procedures • workplace instructions
Motion system may include:	• a system that provides motion cues, where fitted, and associated safety practices • system safety requirements • location and operation of emergency stop buttons, and resetting of buttons
Safety and emergency may include:	• simulation sickness • equipment malfunction/failure • smoke or overheat warnings • emergency communication • loading stops • motion stops
Safety and emergency procedures	• established procedures

RANGE STATEMENT

may include:	• industry safe practice
Monitoring simulator serviceability may include:	• ensuring device is maintained to a level satisfactory to comply with organisational requirements • recording issues which may arise during the course of routine equipment operation • submission of routine maintenance documentation
Simulation sickness may include:	• visuomotor dysfunctions • mental disorientation • nausea including vomiting • other symptoms such as drowsiness, fatigue, and headache
Workplace communications may include:	• interpersonal communications • messages received via simulator/simulated communications • on-screen messages • written reports • phone • radio • other information communication technology means (e.g. email, SMS, blogs, text message, facsimile)
Information communication technology equipment may include:	• visual display units • lesson planning and other off-line preparation stations • electronic communication devices (e.g. desktops, laptops, notebooks, PDAs, cameras, visual monitoring systems)
Pre-operation planning may include:	• use of pre-operation planning tools • development of simulation activity plan • discussion
Appropriate simulation equipment may include:	• computer software subclass • software applications • synthetic environment software (e.g. SETHI) • gaming software • digital insertion devices • compact discs • universal serial bus devices • access database • web based database • storage strategy within an organisation's databases • personnel equipment (e.g. hearing protection, eye protection, clothing, footwear)
Simulation activities may include:	• scenarios • pre-planned training sorties

RANGE STATEMENT

Operating manuals may include:	• pre-planned training operations • manufacturer information manuals • organisation operations manuals • drop-down menus within software applications • a system troubleshooting capability
Accessed may include:	• downloading from database • opening applications, directories and files • inserting a digital storage device
Work practices may include:	• operations conducted by training staff • operations conducted by simulator operators • scenarios utilised to support a simulated activity
Data may include:	• scenario content • representations of facts, concepts and instructions
Saved may include:	• information sent to storage within an organisation's database • information sent to storage within an internal hard drive • information sent to storage within an external hard drive
Stored may include:	• information retained within an organisation's database • information retained within an internal hard drive • information retained within an external hard drive
Relevant personnel may include:	• Instructional staff • coaching staff • experienced personnel • subject matter experts (e.g. pilots, aircrew) • technical staff • trainees • other simulator operators
Simulation activity plan may include:	• written or electronic variable or set scenarios • guidance and control within a range of pre-programmed characteristics • information which may be saved on a digital storage device • a pre-programmed range of variables • programming of entities into a simulator activity • geophysical conditions
Abnormal/unusual conditions may include:	• hardware malfunction/failure • software malfunction/failure • simulation sickness • poor/unusual participant performance • personnel equipment malfunction/failure

RANGE STATEMENT

Variations to activity conditions may include:	• changes made in response to a training need • changes made in response to a strategic requirement
Debrief may include:	• providing feedback to relevant personnel on conclusion of simulator activity • providing feedback to relevant organisational authorities • providing feedback to manufacturers, contracted suppliers, and contracted maintainers

Unit Sector(s)

Not applicable.

Competency field

Competency Field M - Training and Assessment