



Australian Government

AVIO0021 Conduct screening using 3D CT X-ray scanning techniques

Release: 1

AVIO0021 Conduct screening using 3D CT X-ray scanning techniques

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 screen articles by interpreting 3D computed tomography (CT) X-ray images at a transport security protection workplace in compliance with relevant regulatory requirements and national operating standards.

It includes setting up and testing 3D CT X-ray screening equipment; operating 3D CT X-ray screening equipment; interpreting 3D CT X-ray images; identifying weapons, explosives and prohibited items, and taking appropriate action when weapons, explosives and prohibited items are detected.

This unit addresses transport security technical skill requirements (physical, mental and task-management abilities) related to transport security duties of aviation, maritime and air cargo security personnel, and contributes to safe and effective performance in operational transport security environments.

Operations are conducted as part of transport security across a variety of operational aviation, maritime and air cargo contexts within the Australian 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

O – Security

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 Set up and test 3D CT X-ray screening equipment

- 1.1** 3D CT X-ray screening equipment is set up in accordance with workplace procedures and manufacturer's instructions
- 1.2** Required 3D CT X-ray screening equipment tests are carried out in accordance with workplace procedures and manufacturer's instructions
- 1.3** 3D CT X-ray screening equipment safety risks are identified and controlled during set up and testing in accordance with workplace procedures

2 Operate 3D CT X-ray screening equipment

- 2.1** Articles are prepared for screening in accordance with workplace procedures
- 2.2** 3D CT X-ray equipment is operated in accordance with workplace procedures and manufacturer's instructions
- 2.3** 3D CT X-ray screening equipment safety risks are identified and controlled during operation in accordance with workplace procedures

3 Interpret 3D CT X-ray images of screened articles

- 3.1** Image enhancement functions are used effectively in accordance with workplace procedures
- 3.2** Colours on 3D CT X-ray image are correctly interpreted in accordance with workplace procedures
- 3.3** Article components, shapes and sizes on 3D CT X-ray image are correctly interpreted in accordance with workplace procedures
- 3.4** Prohibited items, weapons and explosives on 3D CT X-ray images are correctly detected in accordance with workplace procedures

4 Take appropriate action when weapons, explosives and prohibited items are detected

- 4.1** Suspected explosives are reported to screening point supervisor and appropriate action is taken in accordance with legislative requirements and workplace procedures
- 4.2** Suspected weapons or prohibited items are reported to screening point supervisor and appropriate action is

taken in accordance with legislative requirements and workplace procedures

- 4.3** Relevant documentation is completed accurately in accordance with regulatory requirements and workplace procedures

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.

Non-essential conditions may be found in the AVI Aviation Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit.

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 AVIO0021 Conduct screening using 3D CT X-ray scanning techniques

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 and performance criteria on at least two separate occasions and include:

- communicating effectively with others regarding:
 - activation of an alarm
 - preparation of articles
- completing relevant workplace documentation
- following relevant regulations, instructions, procedures, information and signs
- following work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations during set-up, testing and operations
- identifying and responding to screening equipment failure
- identifying, selecting, using and routinely checking relevant equipment, processes and procedures when using 3D computed tomography (CT) X-ray screening equipment in a transport security protection screening environment
- modifying activities in response to different workplace risk situations and environments
- operating 3D CT X-ray screening equipment correctly in accordance with workplace procedures and manufacturer's instructions
- reviewing and examining 3D CT threat image projection system (TIPS) through inbuilt or external software or program, capable of providing virtual images of threat articles within a bag under examination, and providing immediate feedback to observer
- reviewing and examining 3D CT X-ray images using enhancement functions to identify weapons, explosives and prohibited items correctly
- responding to and reporting security incidents in relation to:
 - presence of weapons
 - presence of explosives
 - presence of prohibited items
- responding to suspected presence of weapons, explosives and prohibited items detected using 3D CT X-ray screening equipment:
 - requesting a physical search of articles
 - requesting a second opinion
 - requesting an explosive trace detection

- re-screening article to clear
- using 3D CT X-ray screening equipment to accurately detect and identify weapons, explosives or prohibited items in articles being screened, with and without the ‘threat box’ function
- working collaboratively and liaising with others when interpreting 3D CT X-ray images.

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:

- 3D CT X-ray site layout, reporting structures, organisation’s transport security program and associated workplace procedures in a transport security protection screening environment
- characteristics of 3D CT X-ray images that indicate the possible presence of weapons, explosives or prohibited items in articles, including the meaning of colour (metals, organics and inorganics), shape and size
- components and operating principles of typical weapons, explosives and prohibited items that may be contained in articles being screened
- concealment methods used to disguise weapons, explosives and prohibited items that may be contained in articles being screened
- limitations of the 3D CT X-ray imaging process and how to overcome these using workplace procedures when interpreting 3D CT X-ray images of articles
- methods, techniques and equipment involved when using 3D CT X-ray screening equipment to screen articles
- organisation’s transport security procedures and policies applicable for using 3D CT X-ray screening equipment to screen articles
- prohibited items and weapons as listed in legislation
- relevant law enforcement agency contacts details
- relevant regulations, instructions, procedures, information and signs
- reporting requirements for incidents including detecting the presence of weapons, explosives or prohibited items using 3D CT X-ray equipment
- roles and responsibilities of law enforcement officers and/or other government officers and non-screening staff in a transport security protection environment
- TIPS
- transport security legislative requirements
- transport security procedures to be followed when an item cannot be cleared using 3D CT X-ray screening equipment
- typical issues that may occur when using 3D CT X-ray equipment to screen articles and appropriate actions to take to resolve and avoid these issues
- WHS/OHS requirements relevant to setting up and operating 3D CT X-ray screening equipment
- workplace procedures for carrying out the required tests of 3D CT X-ray screening equipment
- workplace procedures to be followed when screening equipment does not meet the required standard during testing

- workplace procedures to be followed when screening equipment fails during screening of articles to enter a security zone
- workplace risk situations and environments.

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 or simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- 3D CT X-ray equipment or acceptable means of simulation assessment
- a range of relevant exercises, case studies and/or simulations
- 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

AVI Training Package Companion Volume Implementation Guide available on VET Net: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>