



Australian Government

AVIO0029 Conduct screening using 3D CT X-ray scanning techniques

Release: 1

AVIO0029 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 CT X-ray screening equipment; operating CT X-ray screening equipment; interpreting 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 across a variety of operational contexts within the Australian transport security 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 CT X-ray screening equipment

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

2 Manage loading of X-ray equipment

- 2.1** Loading items onto X-ray belt is controlled and appropriate actions is taken to maintain a steady flow through X-ray screening equipment
- 2.2** Issues interfering with flow of items through X-ray screening equipment are identified and appropriate action is taken to resolve issues concerned
- 2.3** Appropriate advice is provided about items to be identified by screening equipment in accordance with legislative requirements and workplace procedures
- 2.4** Physical position of items is controlled in accordance with workplace procedures
- 2.5** Persons with specific needs are identified and assisted in accordance with workplace procedures
- 2.6** Items with diplomatic status are processed in accordance with workplace procedures

3 Operate CT X-ray screening equipment

- 3.1** Articles are prepared for screening in accordance with workplace procedures
- 3.2** CT X-ray equipment is operated in accordance with regulatory requirements, workplace procedures and manufacturer's instructions
- 3.3** CT X-ray screening equipment safety risks are identified and controlled during operation in accordance with workplace procedures

4 Interpret CT X-ray images of screened articles

- 4.1** Image enhancement functions are used effectively in accordance with workplace procedures

- 4.2 Colours on CT X-ray image are correctly interpreted in accordance with workplace procedures
 - 4.3 Article components, shapes and sizes on CT X-ray image are correctly interpreted in accordance with workplace procedures
 - 4.4 Prohibited items, weapons and explosives on CT X-ray images are correctly detected in accordance with workplace procedures
- 5 **Take appropriate action when weapons, explosives and prohibited items are detected**
 - 5.1 Suspected explosives are reported to relevant authorities and appropriate action is taken in accordance with legislative requirements and workplace procedures
 - 5.2 Suspected weapons or prohibited items are reported to relevant authorities and appropriate action is taken in accordance with legislative requirements and workplace procedures
 - 5.3 Relevant documentation is completed 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 unit replaces and is not equivalent to AVIO0021 Conduct screening using 3D CT X-ray scanning techniques.

Links

Companion Volume Implementation Guides are found in VETNet' -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIO0029 Conduct screening using 3D CT X-ray scanning techniques

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 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 CT X-ray screening equipment correctly in accordance with workplace procedures and manufacturer's instructions
- responding to and reporting security incidents in relation to:
 - presence of explosives
 - presence of prohibited items
 - presence of weapons
- reviewing and examining CT threat image projection system (TIPS)
- reviewing and examining CT X-ray images using enhancement functions to identify weapons, explosives and prohibited items correctly
- processing a diplomatic bag
- providing appropriate assistance to persons with specific needs including:
 - attendant needs
 - medical needs
 - physical mobility needs
 - vision or hearing impairment needs
- providing accurate advice to persons moving through a screening point on metallic items

likely to be picked up by the screening equipment

- responding to suspected presence of weapons, explosives and prohibited items detected using CT X-ray screening equipment
- using 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 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:

- characteristics of 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
- CT X-ray site layout, reporting structures, organisation’s transport security program and associated workplace procedures in a transport security protection screening environment
- limitations of the CT X-ray imaging process and how to overcome these using workplace procedures when interpreting CT X-ray images of articles
- methods, techniques and equipment involved when using CT X-ray screening equipment to screen articles
- organisation’s transport security procedures and policies applicable for using CT X-ray screening equipment to screen articles
- prohibited items and weapons as listed in legislation
- relevant regulations, instructions, procedures, information and signs
- reporting requirements for incidents including detecting the presence of weapons, explosives or prohibited items using CT X-ray equipment
- roles and responsibilities of relevant authorities and non-screening staff in a transport security protection environment
- Screening Notices, such as those outlining the methods and techniques for controlling how items are placed on the X-ray belt
- threat image projection system (TIPS)
- transport security legislative requirements
- transport security procedures to be followed when an item cannot be cleared using CT X-ray screening equipment
- typical issues that may occur when using 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 CT X-ray screening equipment
- workplace procedures for carrying out the required tests of 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 must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate 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
- 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.

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