



Australian Government

AVIO2009A Screen articles by interpreting X-ray images

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to conduct the screening of articles for prohibited items or weapons by interpreting X-ray images. This includes setting up and operating X-ray screening equipment, interpreting X-ray images of items and taking appropriate action to advise the screening point supervisor when suspected weapons explosives or prohibited items are detected. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Work must be carried out in accordance with workplace procedures and the relevant regulatory requirements.

Work is performed under some supervision usually within a team environment.

Work involves the application of workplace procedures and relevant regulations when conducting the screening of articles for prohibited items or weapons when using X-ray screening equipment at an airport.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

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

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|--|---|
| 1 Set up and test X-ray screening equipment | <ul style="list-style-type: none">1.1 X-ray screening equipment is set up in accordance with workplace procedures1.2 Required daily tests are carried out in accordance with workplace procedures1.3 X-ray screening equipment safety risks are identified and controlled in accordance with workplace procedures during set up and testing |
| 2 Operate X-ray screening equipment | <ul style="list-style-type: none">2.1 X-ray equipment is operated in accordance with workplace procedures2.2 X-ray screening equipment safety risks are identified and controlled in accordance with workplace procedures during operation |
| 3 Interpret X-ray images | <ul style="list-style-type: none">3.1 X-ray images are interpreted in accordance with workplace procedures3.2 Image enhancement functions are used effectively in accordance with workplace procedures3.3 Colours on the X-ray image are correctly interpreted in accordance with workplace procedures3.4 Article shapes and sizes on the X-ray image are correctly interpreted in accordance with workplace procedures3.5 Prohibited items, weapons and explosives on the X-ray image are correctly detected in accordance with workplace procedures |
| 4 Take appropriate action when weapons, explosives and prohibited items are detected | <ul style="list-style-type: none">4.1 Suspected explosives are reported to screening point supervisor and appropriate action is taken in accordance with legislative requirements and workplace procedures4.2 Suspected weapons or prohibited items are reported to the screening point supervisor and appropriate action is taken in accordance with legislative requirements and workplace procedures |

Required Skills and Knowledge

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

Required knowledge:

- Sections of the Regulations relevant to the use of X-ray screening equipment for the screening of personal effects and checked baggage in an aviation environment including the Notice made under the Regulations
- The organisation's transport security procedures and policies applicable to the use of X-ray screening equipment for the screening of articles
- Workplace procedures for carrying out any daily, weekly or monthly tests of X-ray screening equipment
- Methods, techniques and equipment involved when using X-ray screening equipment for the screening of articles at an airport
- Typical issues that may occur when using X-ray equipment for the screening of articles at an airport and appropriate action to take to resolve and avoid the issues
- Reporting requirements as detailed in the organisation's transport security program and workplace procedures for security incidents
- Reporting requirements for the presence of weapons, explosives or prohibited items identified using X-ray equipment at an airport
- Features of 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
- The components, operating principles and characteristics of typical weapons, explosives and prohibited items that may be contained in articles
- Transport security procedures to be followed when an item cannot be cleared using X-ray screening equipment at an airport
- Site layout, organisational structures, the organisation's transport security program and associated workplace procedures for aviation transport security screening
- Roles and responsibilities of law enforcement officers and/or other government officers within the aviation environment
- Roles and responsibilities of airline and airport staff and relevant law enforcement agencies' contact details
- Workplace procedures in the event that screening equipment fails during screening of articles to enter an aviation security zone
- Workplace procedures in the event that screening equipment does not meet the required standard during testing
- Occupational health and safety requirements relevant to the set up and operation of X-ray screening equipment
- The peculiarities and limitations of the X-ray imaging process and how to overcome these using workplace procedures when interpreting X-ray images of articles

Required skills:

- Communicate effectively with others when using X-ray screening equipment at an airport
- Read, interpret and apply the Regulations and workplace procedures applicable to the use of

X-ray screening equipment at an airport

- Respond to and report any security incidents and/or suspected presence of weapons, explosives and prohibited items detected using X-ray screening equipment at an airport
- Complete required documentation relevant to the use of X-ray screening equipment at an airport
- Work collaboratively and liaise with others when interpreting X-ray images at an airport
- Take appropriate action when using X-ray screening equipment at an airport including contingency procedures in the event of the suspected presence of weapons, explosives or prohibited items in accordance with workplace procedures and the organisation's transport security program
- Modify activities in response to different workplace contingencies, risk situations and environments
- Identify, select, use and routinely check relevant equipment, processes and procedures when using X-ray screening equipment at an airport
- Identify and respond to screening equipment failures during screening of articles at an airport
- Identify and respond to screening equipment failure during testing

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:
 - using the correct procedures, set up and test X-ray screening equipment whilst meeting OHS requirements
 - demonstrate the ability to correctly operate X-ray screening equipment in accordance with workplace procedures
 - correctly manipulate X-ray images using enhancement functions to identify weapons and prohibited items
 - demonstrate the ability to take appropriate action when a weapon, explosive or prohibited item is identified by using X-ray screening equipment
 - using X-ray screening equipment, accurately detect and identify prohibited weapons, explosives or prohibited items in articles being screened

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

- 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

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Legislative requirements may include:	• the Aviation Transport Security Act (and amendments) • the Aviation Transport Security Regulations • the organisation's transport security program • Notices made under the Act and the Regulations • other Regulations relating to security screening at an airport • a security controlled airport with screened air services
Use of X-ray screening equipment may occur at:	
Articles may include:	• bags • personal belongings • goods • cabin baggage • checked baggage • packages • personal effects • work equipment • tools of trade • display/promotional items
X-ray screening equipment means:	• screening X-ray equipment that has threat image projection system capability and is capable of differentiation between organic and inorganic material • single or multi view X-ray equipment
Threat image projection system capability means:	• a software program capable of projecting virtual images of threat articles such as a gun, knife, or improvised explosive device within the X-ray image of a bag under examination and providing immediate feedback to observer
A prohibited item is:	• as described under the Regulations
A weapon is:	• as described under the Regulations

Unit Sector(s)

Not applicable.

Competency field

O – Security