

# PROTOCOL FOR TESTING AND CERTIFICATION OF X-RAY SCREENERS

## COURSE DESCRIPTION

Instructor's Guide  Course Description Purpose Entry Requirement	Course Code: 123/XST & C/BCAS
<b>Course Title:- TESTING AND CERTIFICATION OF SCREENERS</b>	Duration: 02 working days Issued : 2011 By : BCAS, TRG- DIV
<p><b>Testing &amp; Certification -Purpose:</b></p> <p>As per Standard of Annex 17, ICAO, it is mandatory that persons implementing security control are properly trained and also that the persons carrying out screening operations are certified according to requirement of National Civil Aviation security programme.</p>	
<p><b>Objectives:</b></p> <p>The course has been designed to enable selected security personnel to: -                  Judge the suitability of AVSEC trained staff as certified screener for deployment to undertake screening functions as per National Civil Aviation Security Programme.</p>	
<p><b>Entry Requirements:</b></p> <p>Trainees shall satisfy the following criteria:</p> <ul style="list-style-type: none"> <li>(a) Educational qualification: Desirable graduation level, not below 10+2.</li> <li>(b) Age preferably 45 yrs or below but can be up to 55 yrs subject to being medically fit.</li> <li>(c) Certification &amp; Testing capacity: 40</li> <li>(d) Have written and oral proficiency in medium of instructions (English/Hindi).</li> <li>(e) Have forty hours of working experience with X-ray BIS machine under the guidance of an AVSEC trained supervisor.</li> </ul>	

## PROTOCOL AND GUIDELINES FOR TESTING AND CERTIFICATION OF X-RAY SCREENERS (Duration : 02 Working Days)

**Introduction** As per Standards of Annex 17, ICAO, it is mandatory that persons implementing security control are properly trained and also that the persons carrying out screening operations are certified according to requirement of National Civil Aviation security programme. The requirement has been incorporated with the National Civil Aviation Security Training Programme in the country.

2. In order to implement above requirement, committee of officers as under shall be constituted by Commissioner of Security (CA) to test and certify the screeners: -

- (a) Dy. Com. of Security (CA)/ Asst. Commissioner of Security (CA) –Chairman
- (b) One certified instructor not below rank of assistant manager / associate manager /assistant commandant from Indian Air careers / airport operators / ASG or Assistant Commissioner of BCAS as member.

3. **Venue for the test:** Test will be normally conducted at Delhi, Mumbai, Kolkata & Chennai or any other place decided by Commissioner of Security (CA)

4. **Total marks for the test** : 100 Marks

- (a) Theory Test : 60 Marks
- (b) Practical test : 40 Marks

5. **The allocation of marks for the practical test shall be as under: -**

i.	<b>Conduct of CTP test</b>	<b>04 marks</b>
ii.	<b>Response / reaction on threat image detection</b>	<b>05 marks</b>
iii.	<b>Interpretation of image.</b>	<b>10 marks</b>
iv.	<b>Feeding of baggage</b>	<b>02 marks</b>
v.	<b>Manual check of baggage</b>	<b>03 marks</b>
vi.	<b>Frisking of passengers</b>	<b>10 marks</b>
vii.	<b>Pre-ops check of DFMD</b>	<b>02 marks</b>
viii.	<b>Use of HHMD</b>	<b>04 marks</b>
	<b>Total</b>	<b>40 Marks</b>

**6. Course contents for theory test: -**

- (a) World overview, threat to civil aviation operation & measures to counter them
- (b) Role of BCAS and National civil aviation security programme.
- (c) Introduction / Definition of X-ray, theory, safety precautions, meaning of film safe.
- (d) Dos & Don'ts for screeners
- (e) Recognition of explosive devices, Dangerous goods.
- (f) Bomb Threat Procedure.
- (g) BCAS Specification on X-ray BIS.
- (h) Combined Test Piece (CTP) – testing procedure.
- (i) Threat Image Projection (TIP), Principle, operation, MIS.
- (j) X-ray BIS available at airports worldwide and in India, its brief characteristics & operations.
- (k) System specification Operations & analysis of X-ray images– theory ECIL Rapiscan .
- (l) System specification Operations & analysis of X-ray images & TIP – theory HI-SCAN X-ray Inspection series.
- (m) Security control measures of registered baggage / cargo / courier bag / speed post/mail / sensitive store/ human remains / perishable etc.
- (n) Pre-embarkation screening of hand baggage, frisking of passengers and use of DFMD, HHMD. Touch free concept
- (o) Passenger profiling
- (p) Factors influencing the X-ray screening process.
- (q) Regulated agent concept.
- (r) Procedure for screening cargo.
- (s) Explosive detectors – Principle, operation of different models.

**7. Protocol and guidelines for practical test.**

- a. It is essential that testing requirements e.g. equipments, baggage etc and access to operational security equipment is planned well in advance by a coordinator nominated by BCAS.
  - b. Prior to the test, test team will ensure that the X-ray BIS, Explosive Detector, DFMD and HHMD are in working order.
  - c. Coordinator shall arrange live models and dangerous goods to be made available for test purposes. It is suggested that minimum of 20 baggage of different size and shapes are prepared with live explosives, dummy detonators, assorted batteries, bomb initiating mechanism, dangerous goods such as replica of weapons, toy pistols, grenades, mines, IEDs, different types of fruits such as apple, coconuts, bananas; water, alcohol and articles that are generally carried by a passenger. Test to be conducted on a X-ray BIS in which candidate has more confidence of the machine of his choice available at the location of the test.
- 
- a. In addition the test team may use readily available items, such as knives, axes, screwdrivers and chisels for screening on the person and in the baggage for testing purposes.
  - b. The coordinator shall also arrange the assistance of a trained X-ray operator / supervisor during the test.
  - c. In consultation with DCOS (BDDS), the explosives such as TNT, RDX, PETN, PEK, Sheet / plastic explosives, dummy detonator, power source may also be cleverly introduced in these bags. If live explosives are not available, dummy explosives having similar shape, size and atomic number may be prepared

**Note:** Representative of BDDS must ensure that all live explosives, which are taken for practical test are properly checked and accounted thoroughly after training. DCOS (BDDS) may devise an appropriate system to ensure safety measures and accounting of explosives.

- d. The practical test may be undertaken at airports in real time environment.
- e. 5 bags may be used for sample checks through X-ray as under: -
- **Bag No. 1** One thick metallic container / item, which will show dark or dense mass on the X-ray monitor.
  - **Bag No. 2** One common item that could be a dangerous articles such as a knife or scissors.
  - **Bag No. 3** A pocket calculator/mobile phone/any electronic item with dummy detonator; and
  - **Bag No. 4** A portable radio with dummy / live plastic explosives approx 200 gms
  - **Bag No. 5** A clean bag without any dangerous article. It may contain normal clothing and other articles carried by passengers.
- i. The test team will explain to the candidates that test will be conducted in three parts.
- Part I: will consist of the candidates practicing and checking of the security screening equipment, such as the metal detectors and the X-ray machine.
  - Part II: will allow the candidates to practice the screening tasks.
  - Part III : will involve monitoring and interpretation of X-ray image
- j. **Part I : Practical:** The candidates will be divided into four groups. Each member of the group will practice assigned task individually.
- **Group A** : Switch on walk through metal detector.
  - **Group B** : Switch on and set hand held metal detector.
  - **Group C** : Pre-operational safety checks, switching on and testing the X-ray equipments with CTP.
  - **Group D** : The reaming candidate will act as passengers.
  - **Group Change Over** Each group will change over and practice each task in part I
- k. **Part II Practice** : Explain that after checking switching on and testing the screening equipment, each group will practice as follows: -
- **Group A** : Will practice for keeping bag on the X-ray conveyor belt (feeding point) and queuing assistance to passenger (from within trainees) and directing a stream of passengers (Trainees) for through DFMD.
  - **Group B** : Will monitor the walk through metal detector and conduct the search of passengers using a hand held metal detector; and
  - **Group C** : Will monitor the X-ray and identify image presented on the X-ray monitor, interpret image and threat image projection. Select bag for manual inspection in case of doubt.
  - **Group D** : Will conduct the physical check of the bag..

I. Remaining candidate will act as a stream of passengers with carry on baggage

m. **Part III - Monitoring and testing:** Explain that after checking switching on and testing the screening equipment, each group will now be tested as follows:

- (a) **Group A :** Will keep bag on the X-ray conveyor belt (feeding point) and queuing assistance to passenger (from within trainees). He will also direct the stream of passengers (Trainees) through door frame metal detector.
- (b) **Group B** Will monitor the walk through metal detector and conduct the search of passengers using a hand held metal detector; and
- (c) **Group C** Will monitor the X-ray and identify image presented on the X-ray monitor, interpret image and threat image projection. Select bag for manual inspection in case of doubt.
- (d) **Group D** Will conduct the physical check of the bag

n. The test team will also check how the recovered dangerous articles are packed, documented and hand over to airline. They will also observe various registers maintained by the candidates.

**General:**

- a) The team will ensure that test proceedings are kept confidential till it is approved by Commissioner of Security (CA)
- b) The team will complete the test proceedings and finalize the test results before dispersal to their respective headquarters.
- c) Certification of successful participants shall be done by BCAS HQ training division within a fortnight.