



Republic of the Philippines
Department of Transportation and Communications
OFFICE FOR TRANSPORTATION SECURITY

TRANSPORT SECURITY REGULATION
No.006-2006 CASS

SUBJECT : STANDARD SPECIFICATIONS FOR X-RAY MACHINE

DATE : 23 October 2006

Pursuant to Executive Order No.277 as amended by Executive Order No. 311 and its Implementing Rules & Regulations (IRR) and Section 3.1.1 in the Amendment 10 of the International Civil Aviation Organization (ICAO) Annex 17, this is a regulatory standard, specifications and criteria for x-ray machines used in airport passenger & cargo screening;

Section 1. The recommended minimum technical standard of X-ray machine for use in airport personnel and cargo screening should strictly comply with the following standard, specifications and criteria;

X-RAY SPECIFICATIONS:

X-RAY DESCRIPTION:

1.1. AUTOMATIC DETECTION OF EXPLOSIVES & DRUGS

The capability of the X-ray Machine to directly indicate and recognize "explosives" and "drugs" automatically at real time. Automatic detection avoids delay in inspection improving operator's performance.

1.2. THREAT IMAGE PROJECTION

Superimposes threat & image with automatic projection capability of fictional baggage items containing threat object.

1.3. AUTOMATIC DENSE AREA DETECTION

The capability of the machine to detect hidden item behind high dense material. The detected area is analyzed by means of special enhancement filter software. The dark area is highlighted locally. The resolution is measured in terms of American Wire Gauge Number (AWG#). Most explosives use wire for blasting.

1.4. PENETRATION

The capability of a machine to penetrate at least 25mm thickness of steel.

1.5. FILM SAFETY

X-ray machine radiation should not damage picture films or like

1.6. HEALTH (AND) SAFETY

X-ray machine should conform to applicable health and safety standards of the country.

1.7. STANDARD STEP-WEDGE

a standard ICAO Combined Testing Piece (CTP) or ASTM Level 1-9 should be supplied by the manufacturer.

1.8. ALARM SYSTEM

The device should be equipped with an alarm system (light and audio) triggered by suspicious baggage or which can be initiated by the operator to identify suspicious baggage emerging from the inspection chamber.

1.9. POWER CONSUMPTION / POWER FLUCTUATION

Lowest electrical consumption and equipped with surge protection and Uninterruptible Power Supply (UPS).

1.10. PHOTO DIODE ARRAY

Arrangement of photo diodes such that 100% coverage of luggage is attained if the arrangement is two dimensional solid state detector arrays consisting of silicon photo diodes in planar techniques.

1.11. ZOOM CAPABILITY

The capability to magnify image on the monitor

1.12. NUMBER OF SHADES

The number of discrete brightness steps demonstrated at the monitor. The greater the number of shades of gray demonstrable, the better the cognizance of object is attained and therefore, a more precise Judgment of contents on luggage is achieved.

1.13. IMAGE ENHANCEMENT

A feature where image penetration is adjustable to high, low and inverse modes. This is important when densities of different contents of luggage are detected.

1.14. RADIATION DOSE/ PER INSPECTION

Radiation dose is measured in terms of miliroengen (MR.). Lower radiation dose is recommended.

1.15. BAGGAGE INSPECTION/ HR(SPEED)

The capability of the x-ray machine to have a fast and effective inspection to avoid delay.

1.16. ADDITIONAL FEATURES

This refers to height, weight, dimensions, physical/operational characteristics which are not found or common in every machine

1.17. IN-COUNTRY SERVICES/ MAINTENANCE AND PAST TRACK RECORD

Availability of responsive service and spare parts

1.18. COMMONALITY OF SPARE PARTS

X-ray machine parts to existing inventory for repair and maintenance.

Section 2. Utility of technology- All airport authorities created by an enabling E.O. shall adopt a new security technology every five years in order to be current and competitive against any form of unlawful interference. Detailed technical specifications for x-ray machines shall be based on the requirements of the end-users.

Section 3. Effectivity – This Transport Security Regulation shall take effect immediately after publication in a newspaper of general circulation.



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Approved:



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