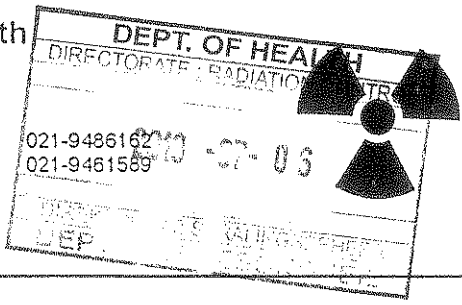


Department of Health

Directorate: Health Technology  
Private Bag X62  
BELLVILLE  
7535

☎: 021-9486162  
Fax: 021-9461589



CABINET / MAIL / SECURITY UNITS:

Personal monitoring of operators with TLD's

1. Cabinet / mail / security units presently used are, to the best of our knowledge, such that personal monitoring of operators is not necessary. Personnel involved in the maintenance and servicing of x-ray equipment must, however, be issued with TLD's.
2. Operators of these x-ray units that may be potentially exposed at any time to doses in excess of 6 mSv per year ( $\frac{3}{10}$  of 20 mSv per year) due to the deterioration of equipment or other changes, or modifications, or the acquisition of new equipment, or any other cause or circumstances must be monitored by means of TLD's. They need to comply with the requirements relating to such workers, e.g. to make use of TLD's and undergo the prescribed medical examinations too.

*G. J. Maree*  
.....  
1 DIRECTOR: HEALTH TECHNOLOGY

*2/2/98*  
.....  
DATE

# GUIDELINE FOR REQUIREMENTS FOR CONVEYER BELT/CABINET TYPE LUGGAGE X-RAY EQUIPMENT

## A. PREMISES AND LICENSING

- A.1 An RC001-form is to be completed and forwarded to this office in application of a licence when new equipment is acquired.
- A.2 An RC002-form is to be completed in notification of any changes in the particulars of the license holders and/or premises to effect cancellation or the issuing of amended licences.

## B. RADIATION WORKERS

- B.1 Operators of the X-Ray equipment are exempted from being monitored as Radiation Workers.
- B.2 All persons involved in the maintenance of the units must be monitored as Radiation workers.

## C. X-RAY UNITS

### C.1 INFORMATION TO BE DISPLAYED

- C.1.1 The serial number of each of the x-ray generator must be displayed in/on an easily accessible area of each unit. The maintenance technician must verify the accuracy of the serial numbers displayed as such.
- C.1.2 Display the manufacturer, model designation, serial number and place of manufacture for the device.

### C.2 The following RADIATION SIGNS OR NOTICES are to be displayed on the conveyor belt and cabinet type of baggage inspection units as follows:

#### C.2.1 Radiation warning sign (trefoil) that:

- a. is shown in two contrasting colours
- b. is clearly visible and identifiable from a distance of 1 meter
- c. has no outer dimensions less than 2 centimetres to be displayed
  - (i) on/near the control panel of the unit in clear view of the operator.
  - (ii) on the external surface of the device, under normal conditions of use.

#### C.2.2 Radiation warning notices, bearing the words:

- (a) "CAUTION-X-RAYS PRODUCED WHEN ENERGISED:"
- (b) "TO BE USED BY AUTHORISED PERSONS ONLY" must be permanently affixed/displayed.
  - (i) on/near the control panel of the unit in clear view of the operator.

C.2.3 Warning notice(s) bearing the wording (or words having a similar intent):

(a) "DO NOT INSERT ANY PART OF THE BODY WHEN SYSTEM IS ENERGISED X-RAY HAZARD" must be permanently affixed.

(i) at all access openings where baggage is inserted or removed.

### C.3 OPERATION SAFETY FEATURES

#### C.3.1 Conveyor Belt and Cabinet Type Units.

3.1.1 Key actuated control so that X-rays cannot be produced when the key is removed.

3.1.2 Manual and/or automatic control of X-ray production and clearly visible reliable light/beam-on indication.

#### C.3.2 Conveyor Belt Units

3.2.1 No X-rays shall be produced when the conveyor is stationary.

3.2.2 For exposures exceeding 0,5 seconds, two independent means to indicate when X-rays are being produced. (e.g. mA meter and X-ray ON light).

3.2.3 Emergency stop buttons at either end of the units (for units manufactured after 1994)

#### C.3.3 Cabinet Type Units

3.3.1 An exposure switch of the "dead-man" type.

3.3.2 Safety interlock to prevent exposure of any part of the human body to the primary x-ray beam by preventing the production of X-rays while any door or access panel leading to the interior of the cabinet is open.

### C.4 RADIATION SAFETY REQUIREMENTS

C.4.1 Leakage radiation  $\leq 5\mu\text{Sv/h}$  at any point 5 cm from the external surface.