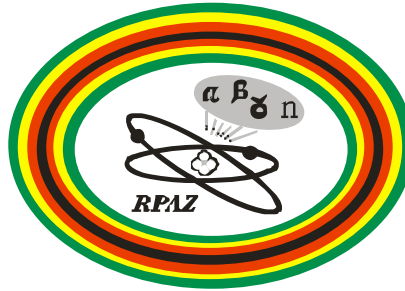


1 McCaw Drive
Box A1710
Avondale
Harare
Zimbabwe



Phone: +263 4 335627
+263 4 335683
Email: officialmail@rpaz.co.zw
Website: www.rpaz.co.zw

RADIATION PROTECTION AUTHORITY OF ZIMBABWE

RADIATION PROTECTION ACT (CHAPTER 15:15)

CHECKLIST FOR INSPECTION OF DIAGNOSTIC X-RAY FACILITIES

A. GENERAL INFORMATION

- (i) Inspection type:
- (ii) Date of previous inspection:
- (iii) Name of Institution:
- (iv) Physical address of facility:
.....
.....
- (v) Telephone:
- (vi) Fax:
- (vii) E-mail:
- (viii) Radiation Safety Officer
 - Name:
 - Qualification:
 - Certification:
 - Experience:

Name(s) of qualified experts

No	Name	Qualification	Experience
1			
2			
3			
4			
5			

(ix) Name and designation of the facility's representative for the inspection

.....

(x) Name and title of the responsible representative of the legal person:

.....

(xi) Implementation of the previous inspection requirements

.....
.....
.....
.....
.....

(xii) Incident/Event History

Prior to the inspection, list for review any incidents or events reported to the Authority since the last inspection

.....
.....

.....
.....

B. VERIFICATION OF SAFETY

1. RADIATION GENERATING EQUIPMENT

Location	Type	Status	Generator		Tube Insert		Collimator	
			<i>Model</i>	<i>S/N</i>	<i>Model</i>	<i>S/N</i>	<i>Model</i>	<i>S/N</i>

NB: Include Manufacturer details (country, year) and Max kV and max mA

2. Facility Design and Shielding

		Yes	No
<i>Facility Design</i>			
Was a safety assessment by a qualified expert performed prior to any modifications			
Is the siting/ location of the x-ray ideal for radiology practices?			
Are controlled and supervised areas demarcated?			
Is the thickness and type of shielding appropriate?			
Are doors lead lined?			
Does the room size meet the minimum required floor area?			
Are the window levels above 2m from the ground?			
<i>Safety Control Mechanism</i>			
Is the treatment room protected from adverse environmental conditions (heat, moisture, etc)	Provided? Working?		
Is fire detection and protection in the radiation areas (tested periodically)	Provided? Working?		
Mechanical door interlocks	Provided? Working?		
Prevention of unauthorized personnel entering X-ray room and control cubicle.			
<i>Shielding</i>			
Are appropriate protective devices available and in use?			
a) Protective barrier			
b) Lead apron			
c) Gonadal shields			
Comments (if any)			
.....			
.....			
.....			

3. Safety, Control and Equipment Design (Machine Items)

	Yes	No
i) Technique factors (kVp, mA, time, and/or mAs) can be indicated prior to the exposure		
ii) Means to allow stepless adjustment of the x-ray field size provided? ,		
(a) Radiology		
1. Light beam diaphragm available?		
2. Diaphragm opening symmetrically?		
3. Grid movement satisfactory?		
4. Chest stand lead backing satisfactory?		
(b) Fluoroscopy		
1. Fluoroscopy screen brightness satisfactory?		
2. Table-screen alignment satisfactory?		
3. Beam confinement to screen at maximum field size and table to screen maximum?		
4. Shutter movement satisfactory?		
5. Footswitch	Available? Used?	
6. Diaphragm control knobs shielded?		
7. Red light provided inside the room?		
8. Room darkening adequate?		
iii) Are measurements of scatter radiation at the operator position and all adjacent areas surrounding the x-ray room within acceptable values?		
Comments (if any)		
.....		

.....
.....
.....

4. Posting/ Labelling

	Yes	No
Trefoil Sign Provided? Legible?		
Controlled areas have appropriate warning signs Provided?		
Illuminated warning signs/ lights functioning (where required)? Working?		
Notices to workers are displayed as required?		
Are pregnancy warning signs Provided? Written in local languages?		

Comments

5. Quality Assurance

	Yes	No
Is there a written Quality Assurance programme		
Is maintenance and repair work in accordance with manufacturer's recommendations?		
Are quality assurance procedures scheduled and performed?		

Are maintenance/repair procedures developed and followed?		
---	--	--

6. Monitoring

	Yes	No
a) Do radiation workers have personal dosimeters?		
b) Are the dosimeters: i) Worn properly ii) Calibrated iii) Exchanged at required frequencies		
c) Are personnel exposures within limits?		
d) Are portable survey instruments: i) Appropriate ii) Calibrated iii) Operational iv) Operational checks performed before use?		
e) Do authorized service provider surveys indicate that the exposure room shielding is adequate and the dose rates around the room meet authorized radiation levels?		
f) Does the authorized organization make periodic tests for x-ray tube leakage?		

Record Independent measurements made during the inspection

7. Local Rules and Supervision

	Yes	No
a) Are rules established in writing		
b) Do the rules include authorized levels and the procedure to be followed when a level is exceeded?		
c) Are radiation workers instructed in the implementation of procedures?		
d) Do workers have adequate supervision to ensure rules, procedures, protective measures and safety provisions are followed?		

Specifically are there operating procedures for:

i. Setting up controlled areas including barriers, surveillance and posting at temporary job sites		
ii. Set up exposures radiation source output beam direction use of collimators, beam height		
iii. Use of personal dosimetry and use of protective equipment such as alarming rate dosimeter		
iv. Performing repairs and maintenance of safety systems		
v. Making Surveys		
vi. Responding to alarms		

8. Emergency Preparedness

	Yes	No
a) Is there a written emergency plan?		
b) Is the plan periodically reviewed and updated?		
c) the plan take account of lessons learnt from operating experience and accidents at similar facilities?		

d) Have workers involved in implementing the plan received training?		
e) Have provisions been made for the plan to be rehearsed at suitable intervals (e.g. fire accident, exposure does not terminate at a specified time)		

9. Verification of Records

	Yes	No
a) Is the authorization certificate displayed?		
b) Are personal dosimetry records being kept:		
i) Current dose and analysed?		
ii) Collective dose and analysed?		
c) Area survey records being kept?		
d) Are records for maintenance and repair being kept?		
e) Are instrument tests and calibration records being kept?		
f) Are incident/accident records and reports being kept?		
g) Are training program records being kept?		
h) Is there evidence of health surveillance records?		
i) Is there documentation on audit and review of the radiation safety programme?		

INSPECTION FINDINGS

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

RECOMMENDATIONS

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

Names of Inspectors.....

Facility representative.....**Signature**.....

Date.....