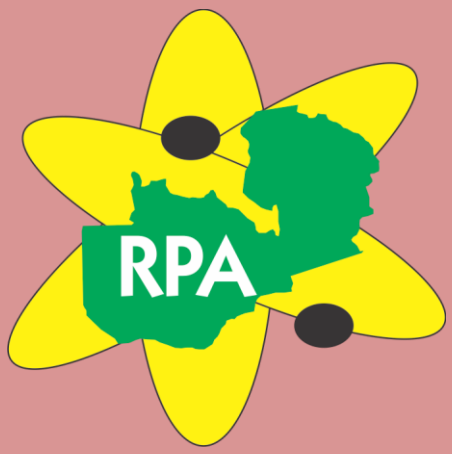
Radiation Protection Authority



Zambia

SAFETY GUIDE

RPA SG 3
Enforcement of Regulations

2015

NOTICE OF APPROVAL

The Radiation Protection Authority Board (RPAB), has on the (day/month/2015), approved the safety guide on Enforcement of Regulations. This guide is approved for the purposes of providing practical guidance with respect to the Ionising Radiation Protection Act, No. 16 of 2005.

Dr. Esther Munalula Nkandu

…….....

CHAIRPERSON

Radiation Protection Authority Board

Mr. Boster Dearson Siwila

…….....

EXECUTIVE DIRECTOR

Radiation Protection Authority

FOREWORD

Approximately 60 years ago, U.S. President Dwight D. Eisenhower delivered his famous "*Atoms for Peace*" speech to the United Nations General Assembly in which he outlined his vision for shifting the use of nuclear energy from war to activities that benefit mankind. Approximately 10 years later, our country Zambia as we know it today was born and indeed over the last 50 years, Zambia has steadfastly cherished Eisenhower's principle and the use of Ionising Radiation in Zambia for beneficial activities has steadily increased. The number of sectors and institutions employing Ionising Radiation for the benefit of Zambians has expanded to include those in the Health, Manufacturing, Mining, Agriculture, and Research and Training sectors.

Zambia however, has not lost sight of the fact that, ionising radiation is not only harmful but can be fatal. Therefore, with the multiplicity of institutions and sectors utilizing ionizing radiation, it is only prudent that a mechanism for the control and monitoring of this potentially harmful but essential tool be put in place to protect both users and their employees, and those that may accidentally come in contact with it.

It is in this vain that in 2005, the Zambian Government enacted the Ionising Radiation Protection Act to provide for the protection of the public, workers and the environment from the unintended harmful effects arising from the use of devices or materials that produce ionising radiation. The Act allowed for the establishment of the Radiation Protection Authority to be the government watchdog on all matters relating to ionising radiation by implementing the various provisions of the Act. To implement provisions of the Act, the Radiation Protection Authority utilizes, among other mechanisms, two instruments - Regulations and Safety Guides.

This Safety Guide will ensure that Licensees comply with the administrative, management, protection and safety requirements put in place by the Radiation Protection Authority. Such requirements include, but are not limited to, obtaining authority to use ionizing radiation (a licensee); appropriately designing the facility within which the ionizing radiation is used; ensuring that all equipment is functioning properly and safely; and having competent personnel on site. And indeed, having a tested and appropriately functional emergency response plan in the event the unforeseen happened.

It is my sincere hope that this Guide will not only facilitate the Radiation Protection Authority's compliance inspections, but also be fully embraced Licensees in order to attain sustainable radiation protection of the public, workers and the precious Zambian environment .

Hon. Dr. Joseph Kasonde, MP

MINISTER OF HEALTH

LIST OF ACRONOMYS

RPAB Radiation Protection Authority Board

RPA Radiation Protection Authority

QA Quality Assurance

QC Quality Control

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1.0 INTRODUCTION

1.1 General

In exercise of the powers conferred by section 28, subsections (1), (2) and (3) of the Ionizing Radiation Protection Act, No. 16 of 2005, RPA issues this Safety Guide to facilitate the enforcement of regulations pertaining to the use of ionising radiation and sources in Zambia. It outlines guidelines that will enable the Radiation Protection Authority to ensure that a Licensee complies with the administrative, management, protection, safety and requirements of the Regulations.

This Enforcement Guide is intended for use by the Radiation Protection Authority. The Guide covers enforcement of regulations for manufacturers and suppliers of sources/devices of Ionising radiation as they apply to: mining, agriculture, construction, teaching and research, general public, medicine, potential and emergency exposure situations. The provisions of this guide shall also be applicable to new techniques utilizing ionizing radiation which are not specifically included in the Act, but which may, in future, become standard practice in Zambia.

1.2 Objective

The objective of this safety guide is to ensure compliance with Ionising Radiation Act. It is intended to protect the public, workers and the environment from the risks associated with exposure to ionising radiation in the course of operating a practice in Zambia.

2.0 RESPONSIBILITIES

2.1 Radiation Protection Authority

The enforcement of the provisions of the Act and this Guide is the responsibility of the RPA.

2.2 Licensee

2.2.1 The Licensee is responsible for complying with the provisions of the Act, the General Regulations and this guide.

2.2.2 The Licensee shall appoint a competent person as a Radiation Protection Officer (RPO), who shall liaise with RPA to ensure compliance with the Act.

3.0 ENFORCEMENT OF REGULATIONS

3.1 RPA will ensure compliance with Regulatory requirements through an enforcement programme as provided for in the Act.

3.2 Enforcement actions by the RPA will take the form of:

3.2.1 written or verbal instructions to correct adverse safety conditions which could lead to infringements of the regulations but which pose no immediate threat to health and safety;

3.2.2 an order to a Licensee to suspend operations in whole or in part until the adverse safety condition(s) which poses an immediate threat to health and safety is corrected; and

3.2.2 restricting or ordering the suspension of an operation in whole or in part if safety can no longer be guaranteed.

3.3 Non-Compliance

Violations of regulatory requirements for radiation safety and security can be categorized as follows;

TYPE	DESCRIPTION
3.3.1 ADMINISTRATIVE	A. Practice operating without ; i. a valid RPA licence ii. a certified Radiation Protection Officer iii. certified radiation workers iv. local rules v. a QA and QC system vi. a training programme
3.3.2 PROTECTION	A. Inappropriate layout of equipment at the practice B. Inadequate design of the practice C. Deviation from approved practice design D. Inadequate or inappropriate protective devices and equipment. E. Uncalibrated equipment F. inappropriately calibrated worker protection devices G. Failure by Radiation Protection Officer to stop an unsafe practice H. Practice operating without: i. radiation warning signs ii. radiation monitoring equipment e.g. survey meters
	iii. records for personal monitoring

	iv. records for workplace monitoring v. records for incidents /accidents vi. procedures for accident investigation and reporting
3.3.3 SAFETY	A. Practice operating without: i. Procedures for assessment of radiation source leakage. ii. Emergency plans for potential accident scenarios. iii. Installation of Safety devices e.g interlock, beam barriers. iv. programme for the management of spent source(s) v. emergency plans vi. procedures for implementing emergency plans vii. Waste management procedures
3.3.4 SECURITY	A. Practice operating without; i. Sources inventory ii. Physical protection regime for installed and vulnerable radioactive materials iii. Records of source movement.

3.3.5 In addition to the offences listed in the Act, it is an offence for a Licensee to deviate from terms and conditions specified in the licence.

3.4 Enforcement procedure

3.4.1 The RPA will conduct various types of inspections to ensure adherence to the requirements of the Act and the following is the enforcement procedure:

3.4.1.1 Issue an enforcement notice; 3.4.1.2 Verification of corrective action;

3.4.1.3 Enforce a penalty by either: A. Modification of the licence,

B. Suspension of the licence,

C. Prohibition of possession of a radiation source/device,

D. Prosecution,

E. Cancellation of the licence, and

F. Rejection of a renewal application.

3.4.2 The enforcement system adopted to satisfy the requirements of this Guide shall be reviewed at appropriate intervals by the RPA to ensure its continuing suitability and effectiveness.

3.4.3 Records of such reviews shall be maintained.

3.4.4 Generic and practice specific enforcement procedures will be developed by RPA for use by the Radiation Safety Officers.

4.0 COMPLIANCE MONITORING

The RPA shall monitor all facilities utilizing ionizing radiation for compliance with the provisions of the Act.

ANNEX

Form XII
(Regulations 12)

THE RADIATION PROTECTION AUTHORITY

The Ionising Radiation Protection Act, 2005

(Act No. 16 of 2005)

The Ionising Radiation Protection (General) Regulations, 2011

ENFORCEMENT NOTICE

(Section 27 of the Ionising Radiation Protection Act, No 16 of 2005)

To (1) ……

……

IN THE MATTER OF (2)……You are hereby notified that you are in contravention of your licence and the provisions of the Ionising Radiation Protection Act, No. 16 of 2005.

Consequently you are hereby directed to undertake the following action(s) before the …… day of……..., 20…….:

(a)……

(b)……..

(c)……

You are further directed to submit a written plan of correction of the violation indicating the dates by which you shall take the corrective action. Failure to comply with this directive my lead to cancellation of your licence.

Dated this …… day of …….. 20……..

(3) ……

Secretary

Definition Licence

An authorization granted by the RPA on the basis of a safety assessment and accompanied by specific requirements and conditions to be complied with by the licensee.

Notification

A document submitted to the RPA by a holder of the current licence or by any other person, to notify an intention to carry out a practice or any other action described in statutory instrument No. 98 of 2011, and its amendment No. 19 of 2011 PART IV- Ionising Radiation Licence.

Quality Assurnace

The function of a *management system* that provides confidence that specified *requirements* will be fulfilled.

Θ Planned and systematic actions are necessary to provide adequate confidence that an item, *process* or service will satisfy given *requirements* for quality; for example, those specified in the *licence*. This statement is slightly modified from that in ISO 921:1997 (Nuclear Energy: Vocabulary) to say 'an item, *process* or service' instead of 'a product or service' and to add the example. A more general definition of *quality assurance* and definitions of related terms can be found in ISO 8402:1994.

Radiation source

A Radiation Source is any radioactive substance or electrical device that produces ionising radiation when energized. It includes sources that the owner or the person in possession has reasons to believe are, or should be exempt from regulatory control. The Regulatory Body will rule on the exemption status of any particular source and inform the holder accordingly.

a) Source

Any irradiating device or radioactive material.

b) Exposure pathways

The routes by which radioactive material can reach or irradiate humans.

Registration

Form of authorization for practices of low or moderate risks whereby the person responsible for the practice has an appropriate, prepared and submitted a safety assessment of the facilities and equipment of the RPA. The practice or use is authorized with conditions or limitations as appropriate. The requirements for safety assessment and the conditions or limitation applied to the practice should be less severe than for Licensing.

CHECKLIST

Checklist for Safety Guide 3

ENFORCEMENT OF REGULATIONS

Yes No

☐ ☐ Compliance with Regulatory requirements

☐ ☐ Any previous enforcement actions carried out by RPA

(I) NON-COMPLIANCE

Facility not complying under the following categories

Yes No

☒ ☐ Legal requirements

☒ ☐ Administrative requirements

☒ ☐ Technical requirements

☒ ☐ Safety and security requirements

(II) ENFORCEMENT PROCEDURE

YES NO

☐ ☐ Issue an enforcement notice

YES NO

☐ ☐ Enforce a penalty by either:

☐ Modification of the licence,

☐ Suspension of the licence,

☐ Prohibition of possession of a radiation source/device,

☐ Prosecution,

☐ Cancellation of the licence, and

☐ Rejection of a renewal application.