



**THE KINGDOM OF LESOTHO NATIONAL REPORT
TO THE 6TH REVIEW MEETING OF THE CONTRACTING
PARTIES TO THE JOINT CONVENTION ON THE SAFETY
OF SPENT FUEL MANAGEMENT AND ON THE SAFETY
OF RADIOACTIVE WASTE MANAGEMENT**

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1. Section A. Introduction:

Lesotho joined the International Atomic Energy Agency in May 2009 and became a party to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management in December 2016.

This report is the first Lesotho National Report under Article 32 of the Joint Convention. The report highlights the current use of radioactive sources in Lesotho and management of waste resultant thereto. Due to the absence of a comprehensive law and regulatory authority, the report further tries to describe the current measures in place being implemented by the Government of Lesotho for radioactive waste management. Spent Fuel management has been excluded in this report as Lesotho does not have any nuclear power plants.

The report has been coordinated by the office of the IAEA National Liaison Officer and National Contact Point for the Joint Convention in consultation with the Department of Environment currently responsible for issues on radioactive waste management in Lesotho.

The main institutional counterparts under the Lesotho – IAEA cooperation are the Government Ministries dealing with, human health; agriculture and food security; energy; water; environment; transport and public works; science and technology; mining; trade and industry; disaster management authority; and the academia. National parastatals and private institutions relevant to the ministries mentioned.

The report has been prepared in line with the report provisions of the Joint Convention including the adopted Guidelines regarding the Form and Structure of National Reports as follows:

- Section A: Introduction;
- Section B: Policies and Practices;
- Section C: Scope of Application;
- Section D: Inventories and Lists;
- Section E: Legislative and Regulatory System;
- Section F: Other General Safety Provisions;
- Section H: Safety of Radioactive Waste Management;
- Section I: Transboundary Movement;
- Section J: Disused Sealed Sources;
- Section K: General Efforts to Improve Safety;
- Section L: Annexes;

2. Section B - Policies and Practices:

The mandate of the Ministry of Tourism, Environment and Culture, through the Department of Environment, is to ensure that the present and future development of Lesotho is socio-economically and environmentally sustainable. In order to achieve this mandate, the

Department of Environment developed a National Environment Policy in 1998. The goal of the Policy is to ensure the protection and conservation of the environment with a view to achieving sustainable development.

This Policy derives its mandate from section 36 of the Constitution of Lesotho, which provides for adoption of policies to protect and enhance the natural and cultural environment. The Policy stipulates that the Government should put in place legislation to regulate the introduction, manufacture, import, sale, transportation, use, distribution and disposal of toxic, hazardous and radioactive substances in Lesotho. Strategies to be used are as follows:

- To maintain an up to date register of toxic, hazardous and radioactive substances;
- To design and set up a national framework and standards against transboundary movement of toxic, hazardous and radioactive wastes and/or the achievement of environmentally sound management of hazardous substances.;
- To control the generation of toxic, hazardous and radioactive wastes and ensure that those banned shall be stringently controlled;
- To monitor the effects and control all phases of the life cycle of all substances likely to have an adverse impact on human health and environment; and
- To determine and use environmentally safe and technologically sound techniques for disposal of toxic, hazardous and radioactive substances.

3. Section C - Scope of Application:

3.1 Lesotho does not have civilian nuclear reactors. There are also no reprocessing facilities.

3.2 Lesotho has civilian applications, though there is no inventory of waste thereof. Currently, these civilian applications report on disused sealed sources. There are no nuclear fuel cycles in Lesotho.

3.3 There is no radioactive waste reported under this Convention within the military.

3.4 Lesotho does not have spent fuel management facilities including radioactive waste management facilities.

4. Section D – Inventories and Lists:

The Government through the Department of Environment or any other Governmental agency has not carried out any inventories of radioactive waste, including orphan sources. Awareness activities are yet to be undertaken in this aspect.

5. Section E – Legislative and Regulatory System:

The Environment Act of 2008 is the current law that has some parts referring to legislative and regulatory framework for implementing Lesotho obligations under this Convention. The Act regulates importation and use of ionizing radiation in the country. It also mandates the Director of the Department of Environment to prescribe standards for use of ionizing and

other radiation in order to minimize their effect on the environment and human health. Part V of the Act further provides for an environmental impact assessment to be undertaken for hazardous waste management (handling, treatment, storage, transportation and disposal) and licensing thereof.

Section 33 of the Act provides for the Director of Environment to disseminate information to the public in order to warn and protect the public in case of actual or potential public exposure to radioactive material and ionizing radiation. The Act further requires the Director of Environment to keep register of all waste licence. It provides for appointment of environmental inspectors.

The current national policies and the Environment Act of 2008 are not comprehensive enough to cover all the legislative, regulatory and administrative measures and other steps necessary for implementing its obligations under this Convention hence the development of Radiation Protection Agency Bill 2017.

PART II of the Bill provides for the establishment of an independent Radiation Protection Agency. The objects of the Agency are to: ensure that radiation sources and other radioactive materials are used exclusively for beneficial and peaceful purposes; provide for protection of human health and the environment against harmful effects of radiation hazards.

The functions of the Agency amongst others include the following: regulation of all activities and practices involving ionizing radiation; advice Government on the development of relevant policies; issue, amend, suspend or revoke licences and set licence conditions for such activities and practices; monitor, inspect such activities and practices and take enforcement measures when required; develop safety principles, criteria and guidelines; establish the necessary reporting and record keeping systems;

The Radiation Protection Agency Bill of 2017 Part VII provides for Radioactive Waste Management and Decommissioning of Radiation Facilities. This Part provides for the following:

- prohibition of importation of radioactive waste;
- Requirements for licensing of radioactive waste management including storage, conditioning, transportation, disposal, and export;
- Criteria in determining whether to approve a license to export radioactive waste;
- Responsibilities of the licensee in radioactive waste management, such as: protection of employees, public and environment; minimum generation of waste; adherence to regulations and guidelines; compliance to international best practices; adherence to requirements on biological, chemical, physical components of radioactive waste;

removal of residual emissions; consideration of future generation; appropriate funding arrangements for radioactive waste management;

- Provision for decommissioning license and requirements thereto such as; requirement for a decommissioning plan; regulatory requirements during the decommissioning phase; pre-licensing requirement for sufficient financial resources to cover the costs associated with safe decommissioning including management of the resulting waste.
- Responsibilities of the licensee during decommissioning;

6. Section F – Other General Safety Provisions:

Additionally to safety provisions outlined under section E above, the Bill requires the licensee of radioactive waste management to take into account the interdependency among the different steps in radioactive waste management are taken into account at all levels in accordance with the regulations and guidelines.

7. Section H - Safety of Radioactive Waste Management:

The Environment Act of 2008 mandates the Director of the Department to prescribe standards for waste, including disposal of such waste. The draft National Strategic Development Plan, strategic objective on improving environment and climate change governance, focuses on improving the delivery of environmental services such as developing waste management strategies and putting in place waste management facilities.

The Ministry is implementing an African Regional Project supported by the IAEA on Strengthening Radioactive Waste Management (AFRA) (RAF 9054), which is being used to train radiation protection officers from a number of radiation users in the country. The project has the following outcomes: development of radioactive waste management policy, strategy and legislation; establishment of waste inventories; and awareness raising on radioactive waste management.

Most users of radioactive sources in Lesotho has done the following to enhance its safety:

- Appointed radiation protection officers;
- Provision of PPE (lead apron) for exposed workers;
- Medical surveillance for exposed workers every six months; and
- Disused Source Agreement with the suppliers.

8. Section I: Transboundary Movement:

Lesotho does not have a record of experiences concerning transboundary movements of radioactive waste.

9. Section J: Disused Sealed Sources:

Most users of radioactive sources in Lesotho such as Letšeng Diamonds Company, Brewery Company and Road contractors have developed an occupational radiation protection procedure which requires that the disused radiation source agreement is entered into with the suppliers to dispose of the sources appropriately.

10. Section K: General Efforts to Improve Safety:

Establishment of Radiation Protection Agency will ensure the proper management of radiation sources and waste thereto, for protection of human health and the environment from the harmful effects of ionizing radiation; developing skills for the Agency personnel in authorization, inspection and enforcement will strengthen the regulatory capability of the authority; raising public awareness on radiation safety will enhance communication with the public on radiation safety.

The indicative outputs could be developed in the following sequence: Enactment of legislation; establishment of Agency; development of training plan; updating of inventory of sources; development of regulations, guides and codes; training of personnel; acquisition of equipment; updating of inventory of sources; development of outreach strategy; training of personnel; implementation of outreach strategy; updating of inventory of sources; external review of regulatory system; training of personnel; acquisition of equipment.

Development of radioactive waste management policy, strategy and legislation will enable the Department of Environment to establish a radioactive waste collection and disposal center for better management of waste. Establishment of waste inventories will inform the Department of strategic actions to be taken using a graded approach. Awareness raising on radioactive waste management will enhance communication with the public on radiation safety.

11. Section L: Annexes:

Annex 1: List of participating institutions:

1. Ministry of Agriculture and Food Security
2. Ministry of Communications, Science and Technology
3. Ministry of Defence and National Security
4. Ministry of Development Planning
5. Ministry of Education and Training
6. Ministry of Energy and Meteorology
7. Ministry of Health
8. Ministry of Public Works and Transport
9. Ministry of Tourism, Environment and Culture
10. Ministry of Trade and Industry
11. Ministry of Water
12. Disaster Management Authority
13. Roads Directorate
14. National University of Lesotho
15. Lesotho Revenue Authority – Customs

Annex 2: Compilation of treaties under the auspices of the IAEA:

1. Application of Safeguards in connection with the Treaty on Non-Proliferation of nuclear Weapons;
2. African Nuclear-Weapon-Free Zone Treaty (the Treaty of Pelindaba);
3. Protocol Additional to the Agreement between Lesotho and the IAEA for the Application of Safeguards in connection with the Treaty on Non-Proliferation of Nuclear Weapons;
4. Convention on Physical Protection of Nuclear Material;
5. Amendment to the Convention on Physical Protection of Nuclear Material;
6. Revised Supplementary Agreement for Provision of IAEA Technical Cooperation;
7. African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology;
8. Convention on Early Notification of Nuclear Accident;
9. Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency;
10. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management; and
11. International Convention for the Suppression of Acts of Nuclear Terrorism.