



Republic of Malawi  
Atomic Energy Regulatory Authority

## National Report

On the Implementation of the Obligations under the  
Joint Convention on the Safety of Spent Fuel  
Management and on the Safety of Radioactive  
Waste Management

Submitted for the purposes of the 7<sup>th</sup> Review Meeting of  
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## **List of Abbreviations**

|        |                                                                                                           |
|--------|-----------------------------------------------------------------------------------------------------------|
| JC     | Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management |
| NR     | National Report                                                                                           |
| IAEA   | International Atomic Energy Agency                                                                        |
| AERA   | Atomic Energy Regulatory Authority                                                                        |
| INSSP  | Integrated Nuclear Security Support Plan                                                                  |
| RSSC   | Radiation Protection and Safety and Security of Radiation Sources Committee                               |
| ED     | Executive Director                                                                                        |
| RB     | Regulatory Body                                                                                           |
| DSRS   | Disused Sealed Radioactive Sources                                                                        |
| NORM   | Naturally Occurring Radioactive Materials                                                                 |
| HEU    | Highly Enriched Uranium                                                                                   |
| LEU    | Low Enriched Uranium                                                                                      |
| NREPRP | National and Radiological Emergency Preparedness and Response Plan                                        |
| NCST   | National Commission for Science and Technology                                                            |

## **Section A. Introduction**

The current National Report (NR) provides information on the status of the Malawi's radioactive waste management programmes and future plans for safety of nuclear and radioactive waste management. It also highlights the status of conformity of the national programmes with the obligations of the "Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management" (Joint Convention). Malawi had acceded to the Joint Convention on 11<sup>th</sup> February, 2022 and the Joint Convention is officially entered into force on 12<sup>th</sup> May, 2022. This report is therefore, the first NR submitted for the Seventh Review Meeting of the Contracting Parties based on the Joint Convention obligations.

In line with Article 32 of the Joint Convention, the Atomic Energy Regulatory Authority (AERA) had prepared this NR which is structured according to the "Guidelines regarding the Form and Structure of National Reports" (INFCIRC/604/Rev.3, Date: 18 September 2014).

Since 2006, Malawi has made remarkable progress in establishing its legal and regulatory framework for safety in line with the GSR Part 1. This includes the enactment of the Atomic Energy Act No. 16 of 2011 and the established and operationalization of the Atomic Energy Regulatory Authority (AERA) as the Regulatory Body (RB). There has also been progress in the establishment of competence for the RB.

Malawi has also made progress in the establishment of regulatory requirements for safety of radiation sources including radioactive waste in line with the GSR Part 3 and other relevant guidance documents. The Atomic Energy Regulations were gazette in 2012 to provide a general framework of standards for safety of handling all forms of radiation sources including radioactive waste. Currently, several other specific regulations are being formulated to address safety in transport, medical applications and NORM facilities and activities.

Malawi's nuclear and radiation related activities are currently limited to the use of radiation generating devices (x-rays), nuclear gauges, industrial radiography using x-ray generators, mining and milling of uranium ores; and mining and processing of minerals whose ore contains radioactive materials. There are also plans for projects that will use high activity sealed radioactive sources and radiopharmaceuticals. Malawi does not have nuclear power plants or research reactors. The National Energy Policy states that Malawi will have its first Nuclear Power Plant (NPP) by 2035. However, there are no significant milestones towards the establishment of a nuclear power programme.

The national regulatory framework assigns the primary responsibility for the safe management of radioactive waste to the Licensee. Authorization of the use of sealed sources is on condition that the operator has an agreement to send the source back to the supplier when it has reached the end of its useful life. NORM residues and contaminated objects are required to be management on-site or at a designated waste management facility upon acquiring an authorization.

## **Section B. Policies and Practices**

### **B.1 Spent Fuel Management Policy**

Currently, there is no documented policy on management of spent fuel and other radioactive waste. However, the Regulatory Body is coordinating the process of developing a national policy on Safety and Security which will also cover issues of waste management.

### **B.2 Spent Fuel Management Practice**

Malawi does not have nuclear power plants or research reactors hence there is no spent nuclear fuel. It is expected that an appropriate spent fuel management programme will be developed when the Government embarks on the development of the Nuclear Power Programme.

### **B-3 Radioactive Waste Management Policy**

As already mentioned in Section B.1 Malawi is in the process of developing its national policy on Safety and Security which will also cover radioactive waste management. It will also have specific strategic measures for radioactive waste management including roles of various agencies and stakeholders.

The national policy will be designed based on relevant IAEA standards, guidelines and principles to ensure conformity to international standards while taking into account national needs and capacities. The strategic measures in the policy will also include technical options and procedures for ensuring safe management of radioactive waste.

### **B-4. Radioactive Waste Management Practices**

As is the case with spent fuel management, Malawi does not have a documented radioactive waste management programme. However, the policy being developed will set the principles for radioactive waste management in line with international standards set by the IAEA and other documented best practices. The following concepts will be incorporated in the policy and subsidiary programmes:

- 1- "Delay and Decay": Radioactive waste is kept in a temporary storage at the owner/operator's premises in order to decay and meet the clearance levels; applicable for very short-lived radioactive waste.
- 2- "Concentrate and Contain": Minimization the volume of the radioactive waste, treatment and conditioning for disposal.
- 3- "Dilute and disperse": Discharging of effluents/very-low level of radioactive waste to the environment by ensuring no radiological impact.

Currently, Malawi does not have storage facility for radioactive waste. However, AERA is in the process of establishing a temporary storage facility for orphan sources. The facility may become operational by end of 2023.

It should also be noted that the importation of radioactive waste into Malawi is prohibited under Section 51 of the Atomic Energy Act N0. 16 of 2011.

## **B-5. Criteria Used to Define and Categorize Radioactive Waste**

Malawi's regulatory framework has adopted IAEA standards and guidance for definition and classification of radioactive waste, specifically the General Safety Guide No. GSG-1 "Classification of radioactive waste". The classification scheme is as follow:

- 1- **Exempt waste (EW)**: Waste that meets the criteria for clearance, exemption or exclusion from regulatory control.
- 2- **Very short-lived waste (VSLW)**: Waste that can be stored for decay over a limited period of up to a few years and subsequently cleared from regulatory control according to arrangements approved by the regulatory body.
- 3- **Very low-level waste (VLLW)**: Waste that does not necessarily meet the criteria of EW, but that does not need a high level of containment and isolation.
- 4- **Low level waste (LLW)**: Waste that is above clearance levels, but with limited amounts of long-lived radionuclides.
- 5- **Intermediate level waste (ILW)**: Waste that, because of its content, particularly of long-lived radionuclides, requires a greater degree of containment and isolation.
- 6- **High level waste (HLW)**: Waste with levels of activity concentration high enough to generate significant quantities of heat by the radioactive decay process or waste with large amounts of long lived radionuclides.

## **Section C. Scope of Application**

### **C-1. Reprocessing**

Malawi does not have nuclear power plants and does not have spent fuel facilities or reprocessing plant. Therefore, it has not declared any spent fuel for the purposes of the Joint Convention, pursuant to Article 3(1).

### **C-2. NORM wastes**

Naturally Occurring Radioactive Materials (NORM) have not been declared as radioactive waste for the purposes of the Joint Convention, pursuant to Article 3(2).

The Atomic Energy Regulations recognizes NORM waste. In Malawi, the main sources of NORM wastes include the mining industry and cement industry. In the mining industry, especially uranium industry, wastes include tailings and waste rock.

### **C-3. Spent fuel or radioactive waste within military or defense programmes.**

The Republic of Malawi does not have spent fuel or radioactive waste within military or defense programmes for the purposes of the Joint Convention, pursuant to Article 3(3).

## **Section D. Inventories and Lists**

### **D-1. Reporting**

The Republic of Malawi does not have a centralized radioactive waste management facility at present. All wastes, especially NORM waste, are management on-site. The current volume of the tailings at the uranium mine in Karonga, Northern Malawi, is 9,700 tons and the tailings dam capacity is 557, 272 m<sup>3</sup> and waste rock is 12.3 million tons. The mine operator is required to provide reports on the waste management activities including volumes, radionuclide content, composition, chemical and physical form to AERA and the Malawi Environmental Protection Authority.

The Republic of Malawi recognizes the need to secure orphan sources. So far, no orphan sources have been recovered but the programme is still on going.

## **Section E. Legislative and Regulatory System**

### **E-1. Implementing measures**

The Atomic Energy Act No. 16 of 2011 forms the legal basis for the regulation of the application of nuclear science and technology in health, industry, construction and research. It also provides for the regulation of activities involving production, possession, import, export, transportation, transfer, handling and management of radiation sources and associated facilities and wastes.

The objectives of the Act include:

1. To provide for the beneficial and peaceful uses of nuclear energy and its applications;
2. To provide for the adequate protection of the public, workers and the environment, now and in the future, against the harmful effects of ionizing radiation and for the safety and security of radiation sources, nuclear material and any other radioactive material;
3. To establish the Atomic Energy Regulatory Authority as the Regulatory Body;
4. To establish and maintain a regulatory system for the adoption of standards, licences, inspection and enforcement to govern all activities and practices falling within the scope of the Act; and
5. To enable Malawi meet its obligations under relevant international instruments/agreements entered into by Malawi.

### **E-2. Legislative and regulatory framework**

The Legislative and Regulatory Framework has two instruments: the Atomic Energy Act and the Atomic Energy Regulations. The Act is based on the GSR Part 1: Legal and Regulatory Framework for Safety.

The Regulations fall under the Act and are meant to provide operators with standards for ensuring safety including in radioactive waste management. These regulations are based on the GSR Part 3-Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards.

There are also two draft regulations undergoing vetting by the Ministry of Justice of the Republic of Malawi: the Atomic Energy (NORM) Regulations and the Atomic Energy (Safe and Secure Transport of Radioactive Materials) Regulations. The NORM Regulations cover management of NORM wastes while the transport regulations also cover safe transport of radioactive waste.

### **E-3. Regulatory Body**

The Republic of Malawi established its regulatory body based on the GSR Part 1: Legal and Regulatory Framework for Safety. The Atomic Energy Act No. 16 of 2011 establishes the AERA as the regulatory body. The Authority is managed by the Board at policy and strategic level and all technical and administrative functions are carried out by the Secretariat. The Authority is empowered to make independent decisions relating to authorization, inspection and enforcement. It is also empowered to develop (draft) regulations and adopt other standards for safety including for safety of radioactive waste management. It is also responsible for advising the Government of

the Republic of Malawi on nuclear safety and security matters including the ratification of relevant international instruments including the Joint Convention. AERA's regulatory functions are completely independent of operators, technical service organizations and other institutions carrying out promotional activities.

### **E-3.1. Overview of AERA's regulatory processes**

#### ***Review, assessment and authorization***

One of AERA's regulatory functions is Authorization of facilities and activities. The authorization process is a fundamental one to ensure that operators meet the requirements for safety of their operations and the safety of the radioactive sources in their possession. The process for notification and authorization of radioactive sources is also utilized to maintain an inventory of radioactive sources, radioactive waste and any disused radioactive sources. The authorization process is also used for management of disused sources by requiring any importer of radioactive sources to have a prior agreement with the supplier to take back any disused source for appropriate management or disposal once it is no longer required by, or of use to the importer.

The Authorization process is guided by AERA's Authorization Policy and Procedure. Authorization has three major steps:

- a. Notification and/or Application: The operator submits a completed notification form to the Authority. During this step the operator informs the Authority of his intention to build a facility and/or carry out activities that will involve radioactive sources including radioactive waste. This information includes the location; type of radioactive source, its form and activity; the nature of application or use, etc. Where the notification and application have been combined the operator submits detailed information using a form prescribed by the Authority.
- b. Review and assessment: The Authority reviews the notification/application form to determine the completeness of information and the adequacy of the proposed safety measures. In this step the Authority may request for clarification or further information from the Operator.
- c. Issuance/rejection of Authorization: After the Authority has obtained all the necessary information from the Operator it makes a final decision. The Atomic Energy Act empowers the Authority to either issue, reject, renew or revoke an authorization.

The above Steps are also followed during renewal of an authorization. In the case of renewal the operator's compliance during the past period is taken into account.

#### ***Inspection and Compliance Monitoring***

AERA conducts inspections to verify operators' compliance with relevant regulatory requirements. The inspections may be planned or adhoc, announced or unannounced. Planned inspections are conducted based on the annual plan and budget for inspections. Adhoc inspections are conducted based on need. The inspections include pre-authorization inspections and periodic inspections.

All inspections are guided by AERA's Inspection Policy and Procedure. Checklists are also established for each type of facility and activity to be inspected in order to guide the inspectors. Currently, AERA has checklists for inspection of medical facilities,

industrial activities and NORM facilities and activities. The checklists were developed based on the applicable regulations and IAEA guidance documents.

### ***Enforcement***

The Authority established its Inspection and Enforcement Policy in 2019 to provide, in part, a basis for decision making on the nature of enforcement actions to be administered against non-compliance. The Atomic Energy Act and the Atomic Energy Regulations spell out penalties for non-compliance. In addition, the Act empowers AERA to administer appropriate enforcement actions depending on the level of non-compliance (the Graded Approach) and in conformity with the Act and Regulations.

After each inspection the Authority informs the operator on the status and areas of compliance and non-compliance. It also provides enforcement actions against each non-compliance including the time frame for corrective actions. Enforcement actions range from recommendations on required improvements to stricter actions including revocation or suspension of authorization or fines.

The Republic of Malawi laws adheres to principles of natural justice including right to appeal. The Atomic Energy Act also provides for the right of Operators to appeal against any perceived unfairness on enforcement actions.

## **E-3.2. Organization, financial resources and independence of AERA**

### ***Organization and financial resources***

AERA is established under the Atomic Energy Act No. 16 of 2011. It is established as a corporate entity with statutory powers.

The Atomic Energy Act empowers the Atomic Energy Regulatory Authority (AERA) to establish the necessary competence and resources for discharging its regulatory functions. This includes appointment of the Board of the Authority and recruitment of the Executive Director and technical and administrative staff of the Authority. The Authority is also empowered to develop and implement human capacity development programmes.

The Government of the Republic of Malawi provides financial resources for the Authority's operations. The Authority develops and implements its own annual budget based on the annual programme of regulatory activities. AERA also mobilizes resources from licenses to supplement the resources provided by the Government.

### ***Independence of AERA***

AERA is effectively independent i.e. it has powers to make regulatory decisions without influence from other agencies. This includes decisions on authorization and enforcement. AERA has standard operating procedures which provide guidance in its decision making process.

## **Section F. Other General Safety Provisions**

### **F-1. Responsibility of the license holder**

The Atomic Energy Act No. 16 of 2011 stipulates the responsibilities of the licensee from Section 31 to 35. Section 31(1) assigns the primary responsibility for safety and

security of radioactive sources and nuclear materials to the licensee. Other responsibilities under the Act include maintenance of records of all activities and incidents involving the facility or activity.

The Atomic Energy Regulations of 2012, under Regulation 66 to 82, provides requirements for the radioactive waste management. Regulation 67 states that “a licensee shall be responsible for the safe management of the radioactive waste generated by the practices or sources for which he is licensed....”

## **F-2. Human and financial resources**

Malawi’s regulatory framework requires licensees to provide for and maintain adequate financial and human resources to fulfil their obligations with respect to the safety of radioactive waste management. The licensee has the responsibility of ensuring that the employees are trained and qualified to undertake their duties with good judgement and according to the specified procedures. All licensees have to designate a radiation protection officer who is responsible for implementing the radiation protection program. The Atomic Energy Regulations also require licensees to appoint a qualified and competent Radioactive Waste Management Officer.

## **F-3. Quality assurance**

The regulatory framework also requires licensees to establish an appropriate management system, commensurate with the size of the undertaking or practice licensed. It also requires that Risk assessment and an assessment of the effectiveness of protective measures applied by the licensees are commensurate with the complexity of the radiation risks associated with the activity.

Licensees are also required to establish Quality Assurance measures which cover all the practices and activities of their facilities including radioactive waste management. This includes the establishment and implementation of a quality assurance program with regard to the implementation of internal procedures, such as regular verifications and calibrations of the radiation measurement equipment.

#### **F-4. Operational radiation protection**

The radiation protection requirements are provided in the Atomic Energy Regulations of 2012. These include dose limits for workers and members of the public. These limits also apply to practices and activities involving radioactive waste management.

##### *a) Occupational Exposure*

The occupational exposure of any workers aged over 18 years of age, the recommended dose limits are:

- i. An effective dose of 20 mSv per year averaged over five consecutive years.
- ii. An effective dose of 50 mSv in any single year.
- iii. An equivalent dose to the lens of the eye of 150 mSv in a year.
- iv. An equivalent dose to the extremities (hands and feet) or the skin of 500 mSv in a year.

##### *b) Apprentices and Students*

For apprentices of 16 to 18 years of age who are undergoing training for employment involving exposure to radiation and for students of age 16 to 18 who are required to use sources in the course of their studies, the occupational exposure shall be so controlled that the following limits are not exceeded:

- i. An effective dose of 6 mSv in a year.
- ii. An equivalent dose to the lens of the eye of 50 mSv in a year; and
- iii. An equivalent dose to the extremities or the skin of 150 mSv in a year.

##### *c) Public Exposure*

The recommended dose limits for individual members of the public are:

- i. An effective dose of 1mSv in a year.
- ii. An equivalent dose to the lens of the eye of 15 mSv in a year.
- iii. An equivalent dose to the extremities or the skin of 50 mSv in a year.

#### **F-5. Emergency Preparedness and Response**

The Atomic Energy Act empowers AERA to develop the national nuclear emergency framework. The Republic of Malawi is in the process of developing a national Radiological Emergency Preparedness and Response Plan (NREPRP) where AERA is coordinating the process in collaboration with the Department of Disaster Management Affairs (DoDMA). What is remaining now is development of sectoral standard operating procedures for response. The NRERP follows the guidance provided in the IAEA General Safety Requirements No. GSR Part 7.

This NREPRP specifies emergency planning categorization according to IAEA standards (emergency planning category IV) and covers potential emergency scenarios involving sabotage/loss/theft/uncontrolled radioactive or nuclear material exposure or contamination from either abroad or within the country. This includes incidences involving radioactive waste.

The Atomic Energy Regulations requires potential licensees and existing licensees to establish and periodically review their facility or activity specific emergency preparedness and response plans. Regulation 86(1) and 87 specifically address emergency preparedness and response involving radioactive waste.

## **F-6. Decommissioning**

Currently, the Republic of Malawi does not have any nuclear or radiological facility or radioactive waste management facility undergoing decommissioning. There are also no decommissioned facilities.

However, the Atomic Energy Regulations of 2012 have set general requirements for safety during and after decommissioning of any nuclear or radiological facility.

## **Section G. Safety of Spent Fuel Management**

The Republic of Malawi does not have any nuclear installation that could lead to the generation of spent nuclear fuel i.e. no nuclear power plants, research reactors or spent fuel reprocessing plant.

## **Section H. Safety of Radioactive Waste Management**

### **H-1. General safety requirements**

The general safety requirements related to radioactive waste management are contained in the Atomic Energy Regulations of 2012 from Regulation 66 to 82. The regulations cover radioactive waste in nuclear or radiological facilities and that which may be managed at a designated radioactive waste management facility. They also cover the waste acceptance criteria and clearance levels; categorization of waste; waste inventory; waste storage; discharge or release of waste; etc.

The regulations also require licensees to adopt measures that can reduce the volume and radioactivity content in waste.

### **H-2. Existing facilities and past practices**

The Republic of Malawi has no disposal facility nor borehole disposals. There are no known past practices that have radioactive waste. All radioactive waste generated in mines and cement or phosphate industries is managed onsite. AERA is in the process of establishing a temporary storage facility for disused sources which may be recovered from search and secure programmes.

The general safety and security requirements in the Atomic Energy Regulations of 2012 also cover past and existing practices under Regulation 81.

### **H-3. Siting of proposed facilities**

AERA's Authorization Policy adopts a multistage authorization approach where all stages of establishing a facility that is likely to give rise to significant radiological risk are assessed. The Review and Safety Assessment process starts with the site selection phase where the operator has to demonstrate that the site selected is suitable for the facility and practice considering environmental, radiological and social factors. The same approach is or will be used when licensing radioactive waste management facilities.

#### **H-4. Design and construction of facilities**

The multistage authorization approach requires that the operator submits the facility designs for review by AERA. Upon being satisfied by the designs the Authority will issue an approval so that construction can begin. At the construction stage, AERA conducts periodic inspections so that the construction is in conformity with the approved design and any conditions that it had issued during the approval of the designs.

#### **H-5. Assessment of safety of facilities**

The multistage authorization process also includes commissioning tests. This stage allows AERA and the operator to tests and verify the safety of the facility prior to commercial or actual operation. The operator is expected to submit a Commissioning Test Report to AERA. Upon being satisfied with the adequacy of the results of the Commissioning Test the AERA issues an operation license.

#### **H-6. Operation of facilities**

The Authority conducts inspections periodically to check compliance of the operator with safety and security requirements. In the case of radioactive waste management facilities (which may exist in near future) the Authority will check that all waste management processes are carried out in compliance with the safety and security requirements. This includes ensuring that dose limits to workers onsite and the public around the facility are within the stipulated limits. The Authority will also ensure that radioactive materials from the waste management facility are not released into the environment, where necessary, without prior authorization by AERA.

#### **H-7. Institutional measures after closure**

Currently, the Republic of Malawi does not have comprehensive institutional measures for post closure.

### **Section I. Transboundary Movement**

The Atomic Energy Act No. 16 of 2011, under Section 51, prohibits the importation of radioactive waste into Malawi. However, Section 57 allows exportation of radioactive waste generated within Malawi upon obtaining a license from AERA.

AERA is in the process of establishing a memorandum of understanding with Customs Division of the Malawi Revenue Authority to strengthen cooperation in the regulation of export and import of radioactive materials and other materials which may have radioactive contents. This includes establishment of capabilities to detect and monitor radioactive materials at all border checkpoints. The Act also empowers the Authority to establish requirements for safety and security during the transport of radioactive materials including radioactive waste. The draft Regulations on transport are currently undergoing vetting by the Ministry of Justice.

### **Section J. Disused Sealed Sources**

The Republic of Malawi has sealed radioactive sources which are being used in industry and research. The health sector is also likely to deploy sealed radioactive sources for treatment of tumors in patients by end of 2023. There are no facilities manufacturing sealed radioactive sources in Malawi. Currently, no disused sources have been identified. However, AERA has a Search and Secure Programme and is in the process

of establishing a temporary storage facility for recovered orphan sources. The Authority uses the RAIS to manage its register of sealed radioactive sources.

The Atomic Energy Regulations of 2012 requires that a licensee should have in place a “return to supplier” agreement for sealed sources.

## **Section K. General Efforts to Improve Safety**

### **K-1. Suggestions and Challenges identified at the previous Review Meeting**

Not applicable.

### **K-2. Efforts to improve safety**

For the purpose of improving the safe management of radioactive waste, AERA has plans to:

- Strengthen the policy framework by developing the Nuclear Safety and Security Policy which also covers radioactive waste management.
- Strengthen detection and monitoring of cross border movement of radioactive materials by cooperating with the Customs authority and establishing detection and monitoring capabilities at the border checkpoints
- Strengthen the legislative and regulatory framework by reviewing the Atomic Energy Act and establishing relevant regulatory requirements to adequately cover radioactive waste management.
- Establish a temporary storage facility for recovered orphan radioactive sources.
- Establish guidance documents for radioactive waste management.

### **K-3. Openness and transparency**

AERA is bound by the general principles of transparency and accountability of the Republic of Malawi. It adopts and adheres to the Public Finance Management Act and the Public Procurement and Disposal of Assets Act.

In matters of public interest the Authority adheres to the principles of natural justice stipulated in the Malawi Constitution and Penal Code. This includes ensuring that the Authority’s decisions are open and transparent and in compliance with its own principles and procedures which are set in its Regulatory Policy.

### **K-4. AERA functions during pandemic outbreak:**

AERA’s regulatory functions were significantly affected by the COVID-19 outbreak. The pandemic limited the Authority’s ability to conduct periodic inspections as mobility was restricted due to lockdowns. The pandemic also affected availability of financial resources as Government could not generate adequate revenue from which AERA gets its financial allocations.

So far the Authority has gained some experience from the pandemic and it has developed measures to adapt. This includes provision of adequate PPE and other accessories to its staff and modifying its inspection processes to suit the pandemic conditions. Currently, there are no strict COVID-19 measures and the Authority is able to operate normally.

## **Conclusion**

The Republic of Malawi's nuclear industry is slowly developing. There is an increase in the deployment of nuclear and radiation technologies in industry, health, research and development. There are also significant activities in the mining and processing of radioactive ores including uranium.

The Republic of Malawi is committed to ensuring safety in the management of radioactive waste. It has so far established a legislative and regulatory framework including the Regulatory Body. It is also committed to improving the policy, legislative and regulatory framework to ensure that responsibilities of various institutions are clearly spelt out and capacities are established for those responsibilities.

The Republic of Malawi will continue to implement its obligations under the Joint Convention.

## **Section L. Annexes**

### **Annex I. List of Spent Fuel Management Facilities**

None.

### **Annex II. List of radioactive waste management facilities**

None.

### **Annex III. List of nuclear facilities in the process of being decommissioned.**

None.

### **Annex IV. Inventory of spent fuel.**

None.

### **Annex V. Inventory of radioactive waste**

None

### **Annex VI. Reference to national laws, regulations, requirements, guides, etc.**

1. Atomic Energy Act No 16 of 2011.
2. Atomic Energy Regulations of 2012.
3. Environmental Management Act of 2017.
4. Environmental Management (Sanitation and Waste Management) Regulations of 2018.

### **Annex VII. References to official national and international reports related to safety**

None

## **Multilateral Agreements and Conventions signed by the Republic of Malawi**

The Republic of Malawi has been a Member State of the IAEA since 2006. Malawi has the following international agreements and instruments in place:

1. The Code of Conduct on the Safety and Security of radioactive sources;
2. The Supplementary Guidance on the Management of disused radioactive sources;
3. The Joint Convention on the Safety of Spent Nuclear Fuel Management and Safety of Radioactive Waste Management;
4. Convention on Assistance in the Case of Nuclear or Radiological Emergency;
5. Convention on Early Notification of Nuclear Accidents;
6. Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM-A);
7. The Pelindaba Treaty on the African Nuclear Weapon Free Zone

## **Annex VIII. Reference to report on international review missions performed at the request of a Contracting party**

The Regulatory Advisory Mission Report of 2018.

## **Annex IX. Other relevant material**

None.

### **Contact Persons:**

#### **Ms. Victoria Kachimera, Executive Director**

Atomic Energy Regulatory Authority

Chief M'Mbelwa Building, Off Robert Mugabe Crescent

Private Bag 368, City Center, Lilongwe 3, Malawi

[Victoria.kachimera@aera.org.mw](mailto:Victoria.kachimera@aera.org.mw), [kachimera\\_7@yahoo.com](mailto:kachimera_7@yahoo.com)

#### **Mr. Master Simoni, National Contact Point**

Atomic Energy Regulatory Authority

Chief M'Mbelwa Building, Off Robert Mugabe Crescent

Private Bag 368, City Center, Lilongwe 3, Malawi.

[Master.simon@aera.org.mw](mailto:Master.simon@aera.org.mw), [mbsimon001@gmail.com](mailto:mbsimon001@gmail.com)