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REGULATION Nº…../…./RURA/2021 OF…./…./2022 ON NUCLEAR SAFEGUARDS

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The Regulatory Board,

Pursuant to Law n° 09/2013 of 01/03/2013 establishing the Rwanda Utilities Regulatory Authority;

Pursuant to Law n°59/2017 of 24/1/2018 Governing Radiation Protection;

Considering deliberations from the consultative meeting held on…… with different stakeholders;

Upon due consideration and deliberation in its meeting of…….;

HEREBY issues the following Regulation:

CHAPTER ONE: GENERAL PROVISIONS

Article One: Purpose of this Regulation

The purpose of this Regulation is to establish the regulatory framework for the system of accountancy for and control of nuclear material.

Article 2. Scope.

This Regulation applies to any person within Rwanda, processing, producing, handling, treating, utilizing, collecting, storing, disposing, liquidating, using, importing, exporting or transiting, nuclear material and items in annex II of the Additional Protocol;

It applies also to a person conducting nuclear fuel cycle-related activities, including research and development activities related to the nuclear fuel cycle not involving nuclear material,

Article 3. Definitions of Terms

For the purpose of this Regulation:

1. **Accounting Records:** means a set of data kept at each facility or location outside facilities showing the quantity of each type of nuclear material present, its distribution within the facility or location outside facilities and any changes affecting it;

2. **Additional Protocol:** means Protocol Additional to the Agreement between the Republic of Rwanda and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons ratified on 2010-05-17

3. **Applicants:** means any person who applies to the Regulatory Authority for authorization to undertake any of the actions described in this Regulation;

4. **Batch:** means a portion of *nuclear material* handled as a unit for accounting purposes at a *key measurement point* (KMP) and for which the composition and quantity are defined by a single set of specifications or measurements. The nuclear material may be in bulk form or contained in a number of separate items, provided that items included in same batch are items containing nuclear material of the same element concentration, enrichment, physical and chemical form;

5. **Book Inventory:** means the algebraic sum of the most recent physical inventoryof that *material balance area* (MBA) and of all inventory changes that have occurred since that physical inventory was taken;

6. **Calibration:** means the process of determining the numerical relationship between the observed output of a measurement system and the value, based upon reference standards of the characteristic being measured;

7. **Containment:** means structural features of a facility, containers or equipment which are used to establish the physical integrity of an area or items (including safeguards equipment or data) and to maintain the continuity of knowledge of the area or items by preventing undetected access to, or movement of, nuclear or other material, or interference with the items, which include the walls of a storage room or a storage pool, transport flasks and storage containers, etc.;

8. **Domestic Transfer:** means the transfer of nuclear material within Rwanda between different licensees in Rwanda;

9. **Effective kilogram (ekg):** means a special unit used in the safeguarding of *nuclear material* and the quantity in 'effective kilograms' is obtained by taking for-
   (a) plutonium, its weight in kilograms;
   (b) uranium with an enrichment of 0.01 (1%) and above, its weight in kilograms multiplied by the square of its enrichment;
   (c) uranium with an enrichment below 0.01 (1%) and above 0.005 (0.5%), its weight in kilograms multiplied by 0.0001; or
   (d) depleted uranium with an enrichment of 0.005 (0.5%) or below, and for thorium, its weight in kilograms multiplied by 0.00005;

10. **Environmental Sampling (ES):** means the collection of environmental samples (e.g. air, water, vegetation, soil, smears) by the International Atomic Energy Agency (IAEA) and/or the Regulatory Authority for the purpose of drawing relevant safeguards conclusions;

11. **Facility:** means:
   (a) a reactor, a critical assembly, a conversion plant, a fabrication plant, a reprocessing plant, an isotope separation plant or a separate storage installation; or
   (b) any location where *nuclear material* in amounts greater than one effective kilogram is customarily used;

12. **Inventory Change:** means an increase or decrease, in terms of batches, of *nuclear material* in an MBA which shall involve one of the following-
   (a) increases- import, domestic receipt from other MBAs, nuclear production, accidental gain, retransfer from retained waste and de-exemption of *nuclear material*; and
   (b) decreases- export, domestic shipment to other MBAs, nuclear loss, other loss, measured discard, transfer to retained waste, exemption of *nuclear material* from IAEA safeguards, and termination of IAEA safeguards on *nuclear material* transferred to non-nuclear use;

13. **License"** means an authorization granted by the Regulatory Authority on the basis of a safety assessment and accompanied by specific requirements and conditions to be complied with by the licensee.

14. **Licensee:** means the holder of a license granted for an activity or source who has recognized right and duties for the activity or source, particularly in relation to protection and safety;

15. **Location Outside Facilities (LOF):** means any installation or location, which is not a *facility*, where *nuclear material* is customarily used in amounts of one effective kilogram or less;

16. **Key Measurement Point (KMP):** means a location where *nuclear material* appears in such a form that it may be measured to determine material flow or inventory. KMPs thus includes, but are not limited to, the inputs and outputs (including measured discards) and storages in MBAs;

17. **List of Inventory Items (LII):** means the facility operator's record regarding the safeguarded*nuclear material*, which is provided to the IAEA and/or the Regulatory Authority Inspector in advance of a *PIV* which include the LII, the measured values or derived estimates of each item of *nuclear material* physically present at the facility at the declared closing date of the material balance period, i.e. at the Physical Inventory Taking (PIT).

18. **Material Balance Area (MBA):** means an area in or outside of a facility such that-
    (a) the quantity of *nuclear material* in each transfer into or out of each MBA can be determined; and

    (b) the physical inventory of *nuclear material* in each MBA can be determined when necessary, in accordance with specified procedures, in order that the material balance for IAEA safeguards purposes;

19. **Material Unaccounted For (MUF):** means the difference between book inventory and physical inventory;

20. **nuclear material**: means any source or any special fissionable material as defined in the agreement between the International Atomic Energy Agency and the Republic of Rwanda;

21. **Nuclear Material Accountancy:** means procedures for accounting for and control of *nuclear material* that shall be established and maintained by licensees at facility and location outside facility level to enable measurement and verification of flow and physical inventory of *nuclear material* by the licensee, Regulatory Authority and the IAEA;

22. **Operating Records"** means a set of operating data kept at each facility on the operation of the facility or LOF, in connection with the use or handling of *nuclear material*;

23. **Person:** means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Regulatory Authority and any legal successor, representative, agent, or agency of the foregoing;

24. **Physical Inventory:** means the sum of all the measured or derived estimates of batch quantities of *nuclear material* physically present at a given time within an MBA,

obtained in accordance with specified procedures, which is determined by the facility Operator as a result of a Physical Inventory Taking (PIT) and is reported to the Regulatory Authority in a Physical Inventory Listing (PIL);

25. **Physical Inventory Listing (PIL):** means a report provided by the Regulatory Authority to the IAEA in connection with a PIT by the operator, listing all batches of nuclear material separately and specifying material identification and batch data for each batch;

26. **Physical Inventory Taking (PIT):** means measurement and other activities necessary to determine and record the quantities of nuclear material in the inventory of an MBA;

27. **R&D:** means research and development;

28. **Regulatory Authority:** means the Public organ mandated to regulate the nuclear and radiological activities;

29. **Safeguards Agreement:** means the Agreement between the Republic of Rwanda and the IAEA for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) which entered into force on 2010-05-17;

30. **Seal:** means a tamper-indicating device used by the Regulatory Authority or the IAEA to join movable segments of containment in a manner such that access to its contents without opening the seal or breaking of the containment is difficult;

31. **Site:** means the area delimited in the design information for a facility, including a closed-down facility, and in the information on a *location outside facilities*, including a closed-down location outside facilities;

32. **Source Data:** means those data, recorded during measurement or calibration or used to derive empirical relationships, which identify nuclear material and provide batch data and may include, weight of compounds, conversion factors to determine weight of element, specific gravity, element concentration, isotopic ratios, relationships between volume and manometer readings and relationship between plutonium produced and power generated;

33. **Source Material:** means uranium containing the mixture of isotopes occurring in nature, uranium depleted in isotope 235, thorium, in the form of metal, alloy, chemical compound, or concentrate or any other material containing one or more of the foregoing in such concentration as the IAEA Board of Governors shall from time to time determine and such other material as the Board of Governors shall from time to time determine;

34. **Special Fissionable Material:** means plutonium-239; uranium-233; uranium enriched in the isotopes 235 or 233; any material containing one or more of the foregoing; and such other fissionable material as the Regulatory Authority shall from time to time determine based on the decision of the IAEA Board of Governors; but the term special fissionable material does not include *source material*;

35. **State System of Accounting for and Control of Nuclear Material:** means Rwanda's system of accounting for and control of all *nuclear material* under the Safeguards Agreement, which includes the regulatory and control system established within the Regulatory Authority for the implementation of Safeguards pursuant to the Safeguards Agreement and the Additional Protocol, as well as the measures referred to in Article 31 of the Safeguards Agreement; and

36. **Tamper-indicating Device"** means device used on a container or containment in a manner that will provide an indication of any violation of the integrity of the container contents.

CHAPTER II: General obligations

Article 4. License obligations

No person shall receive, take possession of, take responsibility for export, import, or transfer of nuclear material, or operate a facility or a LOF without a license duly issued by the Regulatory Authority.

Notwithstanding the provision of paragraph one, a licensee/applicant for license to receive, take possession of, take responsibility for export, import, or transfer of nuclear material, shall abide to safeguards obligations provided for in this Regulation.

The licensee/applicant shall provide information on the following:

(a) The type, form, and intended quantity of nuclear material;

(b) Qualifications of users; and

(c) Evidence of a comprehensive system to account for and control of the nuclear material at the facility or at the LOF level.

The licensee/applicant shall establish, maintain and follow procedures for PIT and for accounting and control of nuclear material in its possession for the approval of the Regulatory Authority, before issuance of the license.

Article 5. Safeguards Requirements

The safeguards requirements for a licensee shall entail the following:

(a) Designation of a person at facility or LOF responsible for accountancy and control of nuclear material and elaboration of reports required under the Safeguards Agreement and Additional Protocol, provided that the technical qualification of such person shall be certified through regular examination by the Regulatory Authority;
(b) Submission to the Regulatory Authority of design information and updates or modifications as appropriate;

(c) Maintenance of accounting and operating records in accordance with the formats prescribed by the Regulatory Authority for the purpose of efficiency in the reporting process, from the licensee to the Regulatory Authority and further to the IAEA; and

(d) Submission of reports, including amplification and clarification in respect of previously submitted information, at intervals prescribed from time to time by the Regulatory Authority.

Article 6. Written Approval

The licensee shall notify the Regulatory Authority in the following circumstances:

(a) Before beginning any activity that may be subject to the accounting for and control of nuclear material and provision of information under this Regulation.

(b) In advance of any planned consumption or dilution of nuclear material in such a way that it will become unrecoverable, except in the case of consumption of nuclear material in nuclear reactors; and

(c) Before interfering with any safeguards equipment or removing a seal installed by the Regulatory Authority or the IAEA, except in nuclear safety emergency situations, provided that the licensee shall report the situation immediately to the Regulatory Authority.

Article 7. Archiving

All accounting and operating records, reports and any other communication to the Regulatory Authority shall be kept by the licensee and the Regulatory Authority in one of the official languages of Rwanda for a period of at least 5 years.

CHAPTER III: NUCLEAR MATERIAL ACCOUNTANCY

Article 8. System of Accounting for and Control of Nuclear Material

The licensee shall ensure the effective implementation of accountancy and control measures at facility or LOF. To that end the licensee shall:

(a) Ensure the integrity of and prevent any damage to containment and surveillance devices installed by the Regulatory Authority or the IAEA;

(b) Report to the Regulatory Authority within 3 hours any finding of breach or damage to containment or surveillance devices installed by the Regulatory Authority or the IAEA;

(c) Submit a full and complete special report to the Regulatory Authority within 7 days following the finding in paragraph (b), including proposed measures to prevent recurrence;

(d) Provide to the Regulatory Authority for notification to the IAEA, information on the health and safety procedures at the facility, prior to the conduct of an IAEA safeguards inspection.

Article 9. Content of the System of Accounting for and Control of Nuclear Material

The System of Accounting for and Control of Nuclear Material shall include the following elements:

a) Designation of a person responsible for management of nuclear material accounting and control measures at facility and LOF, who shall communicate regularly with the Regulatory Authority and be available as may be requested by the Regulatory Authority to:

(i) Participate in the preparation and planning of all licensee activities related to the nuclear material management;
(ii) Ensure the fulfillment of the guideline on accounting for and control of nuclear material at the facility and LOF;
(iii) Perform periodic check-ups on the compliance of physical state of nuclear material with the operation records, and inspects the IAEA seals and other technical equipment;
(iv) Prepare records on those check-ups and inspections referred to in sub-paragraph (iii) of this paragraph;
(v) Keep accounting records and prepare the book inventory of nuclear material and preserve these records;
(vi) Prepare the accounting reports;
(vii) Check physically each receipt and each shipment of nuclear material;
(viii) Assures the physical inventory taking of nuclear material, and
(ix) Accompany the Regulatory Authority and the IAEA inspectors during their inspections.

b) Maintenance of the records and reports specified under this Regulation in a manner that provides for ease of accessibility for verification by the Regulatory Authority or any IAEA inspectors;

c) Retaining the records and reports referred to in article 13 (2) (b) of this Regulation, for a minimum of five years after the removal of all nuclear material from the facility or LOF;

d) Ensuring that nuclear material is only used and stored in locations to which access is limited;

e) Emplacing provisions to assure quality control of the accounting procedures and the manner in which they are implemented; and

f) Emplacing a corrective action programme for the documentation, investigation, reporting and resolution of deficiencies and discrepancies.

Article 10. Implementation of the System of Accounting for and Control of Nuclear Material

In order to implement the System of Accounting for and Control of Nuclear Material, the licensee shall:

a) Take physical inventories as directed by the Regulatory Authority to determine the quantities of nuclear material present within each MBA;

b) Reconcile any differences between the physical inventory and book inventories within 15 days after the start of the PIT;

c) Adjust the accounting records to reflect the results of the Physical Inventory Taking of all nuclear material, including changes to nuclear material category, quantities, and composition;

d) Report to the Regulatory Authority within 24 hours, the discovery of any theft, unauthorized removal, diversion, loss, or misappropriation of any nuclear material, which the licensee is licensed to possess, or nuclear equipment, technology or non-nuclear material that is subject to the regulatory control of the Regulatory Authority;

e) Cooperate with the Regulatory Authority and any other relevant national Agency in any investigation and resolution in the case of theft, unauthorized removal, diversion, loss or misappropriation of nuclear material, and make available all pertinent information;

f) Notify and receive written approval from the Regulatory Authority before introduction or removal of any nuclear material from the Facility or LOF.

g) Allow access to all nuclear material, facilities and LOFs, the inspectors and persons specifically designated by the Regulatory Authority to verify the implementation of this Regulation; and

h) Provide to the Regulatory Authority information on the health and safety procedures with which the inspectors and other designated persons shall comply at the Facility or LOF, prior to inspections and visits by the Regulatory Authority inspectors, IAEA inspectors and other persons designated by the RegulatoryAuthority.

Article 11. Accounting Records

The licensee shall ensure that the following accounting records are set forth in respect of each MBA:

a) All inventory changes, so as to permit a determination of the Book Inventory at any time;

b) All measurement results used for determination of the Physical Inventory;

c) All adjustments and corrections made in respect of inventory changes, book inventories and physical inventories;

d) For all inventory changes and physical inventories, the records highlight, in respect of each batch of nuclear material:

(i) Material identification;
(ii) Batch data; and
(iii) Source data.

e) The records accounts for uranium, thorium and plutonium separately in each batch of nuclear material; and

f) For each inventory change, the following shall be indicated:

(i) Date of the inventory change;
(ii) Originating MBA; and
(iii) Receiving MBA or the recipient.

Article 12. Operation Records

The licensee shall ensure that the operating records, as appropriate, in respect of each MBA contain the following:

a) The operating data used to establish changes in the quantities and compositing of nuclear material;

b) The data obtained from the calibration of tanks, instruments and sampling and analyses, quality control procedures of measurements as well as the derived estimates of random and systematic error;

c) A description of the sequence of the actions taken in preparing for, and in taking, a physical inventory, in order to ensure that it is correct and complete;

d) A description of the actions taken in order to ascertain the cause and magnitude of any accidental or unmeasured loss that might occur; and

e) The date and the signature of an employee who has prepared the record, provided that, in the case of inventory changes which lead to the termination of nuclear material accounting, the signatures of at least three employees, including the signature of the person referred in article 5 (a).

Article 13. Accounting Reports

The licensee shall provide accounting reports consisting of Inventory Change Reports (ICR), Material Balance Reports (MBR)-and Physical Inventory Listing (PIL). as well as reports of all changes, adjustments, and corrections to the inventory of nuclear material, and submit them to the Regulatory Authority by means and in a format approved by the Regulatory Authority or by using the ICR form in Annex II to this Regulation, provided that reports of:

a) Receipts shall be submitted within 5 days of receipt of the nuclear material;

b) Shipments of nuclear material shall be submitted not later than the close of business the next working day after the shipment and shall not be released to the public until the shipment is completed; and

c) Other changes to inventory, including nuclear decay, nuclear loss, and nuclear production shall be submitted within 10 days after the start of taking a Physical Inventory and shall accompany the Material Balance Report.

The licensee shall complete reports showing the material balance based on a physical inventory of nuclear material present in the MBA in line with the codes specified in the Annex II to this Regulation, and submit to the Regulatory Authority either by means and in a format approved by the Regulatory Authority or by using the MBR form specified in the Annex II to this Regulation, provided that reports of:

a) MBR shall be submitted within 10 days after the start of the Physical Inventory Taking;

b) MBR shall include the following entries:

(i) Physical Beginning,
(ii) Inventory changes (increases and decreases),
(iii) Book Adjusted; shipper/receiver differences,
(iv) Physical Ending, and
(v) Rounding Adjustment to Physical Ending
(vi) MUF.

c) The Licensee shall explain any amount of MUF different from zero in a concise note accompanying the material balance report.

The Licensee shall complete the physical inventory listing and submit to the Regulatory Authority either by a method and in a format approved by the Regulatory Authority or by using the PIL form specified in Annex II to this Regulation, provided that:

a) The licensee shall submit the PIL within 10 days after the PIT at a facility;

b) PIL shall be accompanied by the MBR except for the initial PIL, which does not require an MBR; and

c) All inventory changes occurring on the PIT date shall be reflected in the corresponding PIL and MBR.

The licensee shall provide nuclear material accounting reports specified in this Regulation to the Regulatory Authority at the time specified, by a method and in a format approved by it using the forms and codes provided in Annex II of this Regulation.

Article 14. Special Report

The licensee shall submit to the Regulatory Authority a special report on the loss of nuclear material or on the breach of the integrity of the nuclear material containment and surveillance, in a format approved by the Regulatory Authority and not later than 24 hours following the discovery of such events.

Article 15. Advance Notifications

The licensee shall submit an advance notification to the Regulatory Authority in case of consumption and measured discard of nuclear material or intended export or import of nuclear material, within 60 days before the commencement of the operation.

The advance notification shall include:

a) The name and identification of the licensee;
b) An identification, quantity and composition of nuclear material planned to be used, consumed, discarded, or intended to be imported or exported;
c) The date of commencement and end of the operation; and
d) A brief description of the operation and its purpose.

Article 16. Operating Losses Limit

The operating losses limits are established by the Regulatory Authority for each licensee.

The licensee shall ensure the operating loss limits established by the Regulatory Authority are not violated and that a special report is provided to the Regulatory Authority in the case of violation.

Article 17. Domestic Transfer of Nuclear Material

In the case of domestic transfer, the transferring licensee shall forward to the receiving licensee and to the Regulatory Authority a report on the inventory change which shall contain data on the quantity and type of the nuclear material transferred.

The receiving licensee shall verify data specified by the transferring licensee and notify the Regulatory Authority on the inventory change by the corresponding report.

In case of a discrepancy between data specified by the transferring and receiving licensees, the licensee shall ask the Regulatory Authority to carry out measurement, the result of which shall be for the decisive accounting purposes.

Article 18. International Transfer of Nuclear Material

The licensee shall:

a) Notify the Regulatory Authority of any intended transfer of nuclear material into and out of Rwanda within 60 days of expected shipment;
b) Provide the Regulatory Authority with advance notification of any import of nuclear material at least 30 days before the unpacking date is scheduled to begin; and
c) Provide the Regulatory Authority with advance notification of any export of nuclear material at least 30 days before preparation of the material for packaging and shipment.

The notification under Paragraph 1 shall specify the following:

a) The identification, expected quantity and composition of the nuclear material to be transferred;
b) The State for which the nuclear material is destined or originated from;
c) The dates on and locations at which the nuclear material is to be prepared for shipping or receiving; and
d) The approximate dates of dispatch or receipt and arrival of the nuclear material.

Article 19. Exemptions from Safeguards

The Licensee may apply for an exemption from safeguards obligations of nuclear material as follows, where:

a) Special Fissionable Material, is used in gram quantities or less as a sensing component in instruments;
b) Nuclear Material, is used in non-nuclear activities such as the production of alloys or ceramics; and,
c) Plutonium with an isotopic concentration of plutonium-238 exceeding 80%.

The Licensee shall not consider any nuclear material as exempted from safeguards until written approval has been received from the Regulatory Authority, following which the transfer to the exempted category should be reported using the ICR form specified in the Annex II to this Regulation.

The licensee shall ensure that nuclear material exempted from safeguards are:

a) stored separately from other nuclear material which is not exempted from safeguards;

b) included in the Book Inventory of the location with indication that the material is exempted;
c) listed separately in the list of Physical Inventory; and
d) kept under the regulatory control of the Regulatory Authority.

Where an exempted nuclear material is to be exported, processed or stored together with nuclear material that is subject to Safeguards, provision shall be made for de-exemption from safeguards and the re-application of all requirements under the Safeguards Agreement, provided that the licensee shall notify the Regulatory Authority.

CHAPTER IV: PROVISION OF INFORMATION

Article 20. Design Information

The licensee shall ensure that the design information provided to the Regulatory Authority includes:

a) In respect of each facility, prior to applying for a construction license or implementing any change relevant to safeguards:

   (i) The identification of the facility, stating its general character, purpose, nominal capacity, geographical location and the name and address to be used for routine business purposes;
   (ii) The form, location, flow of nuclear material and to the general layout of important items and equipment which use, produce or process nuclear material;
   (iii) A description of the general arrangement of the facility with references to the extent feasible;
   (iv) A description of features of the facility relating to material accountancy, containment and surveillance; and
   (v) A description of the existing and proposed procedures at the facility for nuclear material accountancy and control, with special references to material balance areas establishment by the operator, measurement of flow and procedures for PIT.

b) Information in respect of nuclear material outside facility shall include:

   (i) A general description of the intended use of the nuclear material, its geographic location, and the user's name and address for routine business purposes,
   (ii) The quality of the nuclear material, and
   (iii) The time frame within which the nuclear material will be used, and the system of accounting for and control of the nuclear material

c) General description of each building on each site, including its use and, if not apparent from that description, its contents, provided that the description shall include a map of the site.

The licensee shall inform the Regulatory Authority before any modification is made to the Facility, LOF or site, which may affect information submitted previously as described above.

The updates of the design information shall be provided to the Regulatory Authority not later than 31st January of each year for the period covering the previous calendar year.

Article 21. Provision of Information under the Additional Protocol

The licensee shall provide to the Regulatory Authority any information:

a) Identified by the Regulatory Authority on the basis of expected gains in effectiveness or efficiency on operational activities of safeguards relevance at facilities and at locations outside facilities where nuclear material is customarily used;
b) Regarding the quantities, uses and locations of nuclear material exempted from safeguards; and
c) Regarding the quantities (which may be in the form of estimates) and uses at each location of nuclear material exempted from safeguards but not yet in a non-nuclear end-use form, in quantities exceeding those set out in Safeguard Agreements.

The updates of the design information mentioned in paragraph 1 shall be provided to the Regulatory Authority not later than 31st January each year for the period covering the previous calendar year.

Article 22. Future Plans

Any person in Rwanda shall inform the Regulatory Authority before commencing any activity that is subject to this Regulation.

The licensee shall also provide general plans for the succeeding ten-year period relevant to the development of the nuclear fuel cycle including planned nuclear fuel cycle-related R&D activities.

Article 23. Nuclear Fuel Cycle Related R&D Information

Any person conducting nuclear fuel cycle-related R&D activities involving or not involving nuclear material shall:

a) Furnish the Regulatory Authority with a general description and information specifying the location of the nuclear fuel cycle-related R&D activities;
b) Inform the Regulatory Authority not later than 31st January each year of any modification affecting the information previously submitted; and
c) Upon notification by the Regulatory Authority, allow IAEA inspectors accompanied by representatives of the Regulatory Authority and those persons specifically designated by the Regulatory Authority, complete access.

Article 24. Information Regarding Specified Activities

The licensee or any person engaged in one or more of the nuclear fuel cycle-related activities specified in Annex I of the Additional Protocol shall:

a) Furnish the Regulatory Authority with a description of the scale of operations for each location engaged in the activities specified in Annex I Regulation of the Additional Protocol; and
b) Submit to the Regulatory Authority by the 31st January each year updates of the information for the period covering the previous calendar year.

Article 25. Information Regarding Export and Import of Specified Equipment and Non-Nuclear Material

The licensee or any person shall provide the Regulatory Authority with export and import information regarding equipment and non-nuclear material specified in Annex II of the Additional Protocol, including the identity, quantity, location of intended use, and date or expected date, as appropriate, of the export and import.

The licensee shall submit to the Regulatory Authority as soon as a decision is made on export or import of the equipment and non-nuclear material specified in Annex II of the Additional Protocol, provided that quarterly updates of the information shall be submitted to the Regulatory Authority after the making of the decision, within 30 days of the end of each quarter.

CHAPTER V: INSPECTIONS

Article 26. Inspection of nuclear material

The Regulatory Authority may conduct inspections at any facility, LOF or premises of any licensee and any other location related to an activity the Regulatory Authority deems necessary to fulfil its regulatory responsibilities and ensure the implementation of Rwanda's obligations under the Safeguards Agreement and the Additional Protocol.

Upon notification by the Regulatory Authority, the licensee shall allow IAEA inspectors accompanied by representatives of the Regulatory Authority and other persons specifically designated by the Regulatory Authority, unhindered access to nuclear material, accounting and operating records, facilities, LOFs and any other locations specified by the Regulatory Authority or the IAEA.

The records referred to in paragraph 2 of this Article shall be easily retrievable and readily accessible.

The licensee shall permit the Regulatory Authority and IAEA inspectors to perform all activities provided for in the Safeguards Agreement, Additional Protocol, which may include:

a) Examination of nuclear material control and accounting records and reports;
b) Verification of the location, identity, quantity and composition of all nuclear material;
c) Verification of information on possible causes of MUF, shipper/receiver differences and uncertainties in the Book Inventory;
d) Measurements;
e) Installation and use of measuring and surveillance equipment;
f) Application of seals and other tamper-indicating devices;

g) Collection of environmental samples;
h) Visual observation; and
i) Other actions authorized under the Safeguards Agreement and the Additional Protocol.

Article 27. Technical Visits

The licensee shall allow access to the IAEA accompanied by the Regulatory Authority to conduct technical visits to a facility, LOF and any other locations identified by the Regulatory Authority and the IAEA for purposes other than a safeguards inspection, design information verification or complementary access.

The purpose of the visit referred to in paragraph 1 shall be for the examination and verification of information provided by the licensee, fact finding and technical discussions in connection with the development of safeguards approaches and implementation of this Regulation.

CHAPTER VI: FAULTS AND ADMINISTRATIVE FINES

Article 28: Failure to Notify the Regulatory Authority

Any licensee who fails to notify the Regulatory Authority on any matters needed to be notified as provided in this Regulation commits a fault, and is liable to an administrative fine of between one million and half (1,500, 000) to three million (3.000,000) Rwandan francs.

Article 29: Failure to Report to the Regulatory Authority

Any licensee who fails to provide timely reports to the Regulatory Authority on any matters needed to be reported as provided in this Regulation commits a fault, and is liable to an administrative fine of between two million (2,000, 000) and three million (3.000,000) Rwandan francs.

Article 30: Failure to cooperate with safeguard inspectors

Any licensee who fails to allow access or cooperate with the safeguards inspectors as provided in this Regulation commits a fault, and liable to an administrative fine of between three million (3,000,000) and five million (5,000,000) Rwandan francs.

CHAPTER VII. FINAL PROVISIONS

Article 31: Commencement

This Regulation comes into force on the date of its signature by the Chairperson of the Regulatory Board.

Kigali ……../…….../2022

(sé)
Dr. Ignace GATARE
Chairperson of the Regulatory Board

ANNEXES

ANNEX I: Physical Inventory Listing Form

PHYSICAL INVENTORY LISTING (PIL) FORM R.02/C		
COUNTRY- RWANDA	**DATE**	
FACILITY- GREAT TECHNICAL LIMITED	**REPORT No. 1**	
MATERIAL BALANCE AREA- NF-Z	**PAGE No 1**	**SIGNATURE-……**

						ACCOUNTANCY DATA							CORRECTIO	
ENTRY No.	CONTINUATIO	KMP CODE	NAME NUMBI BATCH	NUMBI ITEMS BATCH	MATERIAL DESCRIPTION	ELEMENT	WEIGH ELEME	UNIT kg/g	WEIGHT FISSILE ISOTOP (URANI ONLY) (	ISOTOPE CODE	MEASUR.BASIS	CONCISE NOTI	REPORT N	ENTRY NO.

Annex II: forms and codes used for reports to the Regulatory Authority

1. Inventory Change Report (ICR)

INVENTORY CHANGE REPORT (ICR) FORM R.01.1/c

COUNTRY.....

FACILITY.....

MATERIAL BALANCE AREA.....

PERIOD COVERED BY REPORT FROM ..... TO .....

REPORT No. .....

PAGE No. ..... OF .....PAGES

SIGNATURE .....

1	5	9	13	19	25	31	70	74	80
									1

ENTRY No.	CONTINUATION	DATE OF INVENTORY CHANGE	MBA/COUNTRY FROM	MBA/COUNTRY TO	TYPE OF INVENTORY CHANGE	KMP CODE	NAME OR NUMBER OF BATCH	NUMBER OF ITEMS IN BATCH	MATERIAL DESCRIPTION	ACCOUNTANCY DATA ELEMENT	ACCOUNTANCY DATA WEIGHT OF ELEMENT	ACCOUNTANCY DATA UNIT kg/g	ACCOUNTANCY DATA WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (g)	ISOTOPE CODE	MEASUR. BASIS	CONCISE NOTE	CORRECTION TO REPORT No.	CORRECTION TO ENTRY No.	
1	3	4	10	14	18	20	21	29	33	37	38	46	48	56	72	73	74	78	80
																			2
																			2
																			2
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																			2

2. Material Balance Report (MBR)

MATERIAL BALANCE REPORT (MBR) FORM R.03/C											
COUNTRY- RWANDA					REPORTING PERIOD-						
FACILITY-					REPORT No-						
MATERIAL BALANCE AREA-					PAGE No.-		SIGNATURE-				
			ACCOUNTANCY DATA						CORRECTION TO		
ENTRY No.	CONTINUATION	ENTRY NAME	ELEMENT	WEIGHT OF ELEMENT	UNIT kg/g	WEIGHT OF FISSILE ISOTOPES (URANIUM ONLY) (G)	ISOTOPE CODE	CONCISE NOTE	REPORT No.	ENTRY NO.
1		PB								
2		BA								
3		PE								
4		RF RAPE			-	-				
5		MF								

PB – Physical Beginning
BA – Book Adjusted
PE – Physical Ending
MUF – Material Unaccounted for
RAPE – Rounding Adjustment to Physical Ending

3. Codes Used by the Licensee in Completing Reports to the Authority

Two-character codes used for accounting entries in ICRs and MBRs

Type of Inventory Change	Code
Receipt foreign (import into Rwanda)	RF
Receipt domestic	RD
Domestic receipt at starting point of safeguards	RS
Domestic receipt from non-safeguarded activity	RN
Nuclear production	NO
Shipment foreign (export from Rwanda)	SF
Shipment domestic	SD
Domestic shipment to non-safeguarded activity	SN
Nuclear loss	LN
Measured discard	LD
Transfer to retained waste	TW
Retransfer from retained waste back to safeguards	FW
Exemption from Safeguards based on use	EU
Exemption from Safeguards based on quantity	EQ
De-exemption from Safeguards, reapplication of safeguards (use)	DU
De-exemption from Safeguards, reapplication of safeguards (quantity)	DQ
Termination of safeguards for non-nuclear consumption	TU
Accidental loss	LA
Accidental gain	GA
Difference in the shipper/receiver measurement	DI
Decrease in batch content due to re-batching	RM
Increase in batch content due to re-batching	RP

Category Change (result of blending, enrichment, depletion or burn-up)	Code
Enriched to natural	EN
Enriched to depleted	ED
Natural to enriched	NE
Natural to depleted	ND
Depleted to enriched	DE
Depleted to natural	DN

Other Codes for MBR	Code
Initial Physical Inventory	PB
Final report inventory	BE
Adjusted final Book Inventory	BA
Rounding adjustment	RA

Final Physical Inventory	PE
Material Unaccounted For	MF

Data elements of the four-character material description codes indicating the physical and chemical form, containment and irradiation st atus, and quality of the nuclear material in the batch.

Material form	Code
Fuel rods, pins	ER
Fuel plates	EP
Fuel bundles	EB
Fuel assembles	EA
Other fuel	EO
Homogenous powder	PH
Ceramic pellets	CP
Ceramic spheres	CS
Other ceramics	CO
Pure metal	PM
Metal alloy	MA
Nitrate solution	LN
Fluoride solution	LF
Other solution	LO
Homogeneous scrap	SH
Heterogeneous scrap	SN
Sealed source	QS
Small quantities (samples)	SS
Solid waste (fuel assembly hulls, cans)	AH
Solid waste, mixed (plastics, gloves, paper, etc.)	AM
Solid waste (contaminated equipment)	AC
Solid waste (other)	AO
Liquid waste (low level)	WL
Liquid waste (medium level)	WM
Liquid waste (high level)	WH
Ores	OR
Concentrates	YC
Uranium hexafluoride (UF6)	U6
Uranium tetrafluoride (UF4)	U4
Uranium dioxide (UO2)	U2
Uranium trioxide (UO3)	U3
Uranium oxide (U3O8)	U8
Thorium oxide (ThO2)	T2

Type of container	Code

Cylinder	C
Parcel	P
Drum	D
Individual fuel assemblies	S
Special packing assuring sub criticality	B
Bottle or flask	F
Vessel, tank	T
Other	O

Material State	Code
Fresh nuclear material, e.g. fresh fuel	F
Irradiated nuclear material, e.g. irradiated fuel	I
Irrecoverable material	N
Recoverable material	R
Retained waste	W

Element Category	Code
Plutonium	P
Enriched uranium	E
High enriched uranium (20% enrichment and above)	H
Low enriched uranium (higher than natural but less than 20% enrichment)	L
Natural uranium	N
Depleted uranium	D
Thorium	T

Isotope	Code
Uranium enriched in ^{235}U	G
Mixture of ^{235}U and ^{233}U	J
Uranium containing ^{233}U	K

Measurement Method	Code
Batch data based on fresh measurements at the Licensee	M
Batch data based on measurement made at another Licensee	N
Batch data based on earlier measurement at the same Licensee	T
Batch data based on earlier measurement at another Licensee	L