

South Africa

Nuclear Energy Act, 1999

Nuclear Non-Proliferation Regulations, 2023

Government Notice R3145 of 2023

Legislation as at 10 March 2023

FRBR URI: /akn/za/act/gn/2023/r3145/eng@2023-03-10

There may have been updates since this file was created.

PDF created on 21 February 2024 at 22:47.

[Check for updates](#)



About this collection

The legislation in this collection has been reproduced as it was originally printed in the Government Gazette, with improved formatting and with minor typographical errors corrected. All amendments have been applied directly to the text and annotated. A scan of the original gazette of each piece of legislation (including amendments) is available for reference.

This is a free download from LawLibrary and is presented in collaboration with the African Legal Information Institute, the Judicial Institute for Africa and the Laws.Africa Legislation Commons, a collection of African legislation that is digitised by Laws.Africa and made available for free.

www.lawlibrary.org.za | info@lawlibrary.org.za

www.laws.africa | info@laws.africa

There is no copyright on the legislative content of this document.

This PDF copy is licensed under a Creative Commons Attribution 4.0 License (CC BY 4.0). Share widely and freely.

Nuclear Non-Proliferation Regulations, 2023

Contents

| | |
|---|---|
| 1. Definitions | 1 |
| 2. Keeping of records | 2 |
| 3. Reports to Minister | 2 |
| 4. Measurements on nuclear material and maintaining measuring control programmes | 3 |
| 5. Provision of information on design of nuclear installation and site concerned and all changes effected to the design thereof | 4 |
| 6. Physical stocktaking of nuclear material | 4 |
| 7. Prior notification of importation and exportation of nuclear material and nuclear-related equipment and material | 5 |
| 8. Notification on any loss of nuclear material | 5 |
| 9. Schedules of planned activities | 5 |
| 10. Application for authorisation for acquisition, possession of, import and certain activities relating to nuclear material | 6 |
| 11. Application for authorisation for exportation of nuclear material | 6 |
| 12. General | 6 |
| 13. Offences and penalties | 6 |
| 14. Exemptions | 6 |
| 15. Short title and commencement | 7 |
| Annexure 1 | 7 |
| Annexure 2 | 7 |

South Africa

Nuclear Energy Act, 1999

Nuclear Non-Proliferation Regulations, 2023

Government Notice R3145 of 2023

Published in Government Gazette 48188 on 10 March 2023

Commenced on 10 March 2023

[This is the version of this document from 10 March 2023.]

The Minister of Mineral Resources and Energy has, under section 54(1), read with sections 33(3)(a), (b), (c), (d), (e), (f), (h), and (i), 34(2) and 35(2) of the Nuclear Energy Act, 1999 ([Act No. 46 of 1999](#)), made the Regulations in the Schedule.

1. Definitions

In these Regulations any word or expression to which a meaning has been assigned in the Act, has the meaning so assigned and, unless the context indicates otherwise—

"critical facility" means an installation used for research and consists of a configuration of nuclear material which, by means of appropriate controls, can sustain a chain reaction which is distinguishable from a research reactor or a power reactor;

"destructive analysis" means the determination of nuclear material content and, if required, of isotopic composition of chemical elements present in a sample containing the nuclear material;

"facility" means a reactor, critical facility, conversion plant, fabrication plant, reprocessing plant, an isotopic separation plant, separate storage installation or heavy water production facility, medical isotope production facility, or any location where nuclear material is customarily used;

"non-destructive assay" means a measurement of the nuclear material content or of the element or isotopic concentration of an item without producing significant physical or chemical changes in the item;

"nuclear event" means theft, unauthorised removal, diversion, loss, accidental gain or misappropriation of nuclear material and nuclear-related equipment and material capable for the diversion from peaceful use to the development of nuclear weapons, other explosive devices or for proliferation purposes;

"nuclear fuel cycle related research and development activities" means those activities which are specifically related to any process or system development aspect of any of the following: Conversion of nuclear material, enrichment of nuclear material, nuclear fuel fabrication, reactors, critical facilities, reprocessing of nuclear fuel, processing (not including repackaging or conditioning not involving the separation of elements, for storage or disposal) of intermediate or high level waste containing plutonium, high enriched uranium or uranium-233, but do not include activities related to theoretical or basic scientific research or to research and development on industrial radioisotope applications, medical, hydrological and agricultural applications, health and environmental effects and improved maintenance;

"planned activity" means any activity associated with the use of nuclear material including the nuclear fuel cycle related research and development activities, design, procurement, construction, commissioning, operation, decommissioning, dismantling, storage, disposal, and any other activity related to nuclear material; but do not include activities related to theoretical or basic scientific research or to research and development on industrial radioisotope applications, medical, hydrological and agricultural applications, health and environmental effects and improved maintenance;

"power reactor" means a reactor intended to produce electrical power, power for propulsion, or power for district heating, desalination or industrial purposes;

"**reactor**" means any device in which a controlled, self-sustaining fission chain reaction can be maintained;

"**research reactor**" means a reactor used as a research tool for basic or applied research; for training; or for radioisotope production;

"**technical assistance**" means any form of instructions, skills, training, working knowledge, consulting services and may involve the transfer of technical data;

"**technical data**" means any form of blueprint, plan, diagram, model, formula, engineering design and specification, manual and instruction written or recorded on other media or devices such as disk, tape, and read-only memories;

"**technology**" means specific information required for the development, production, or use of nuclear material, nuclear-related equipment and material and may take the form of technical data or technical assistance, but controls on technology transfer do not apply to information in the public domain or to basic scientific research;

"**the Act**" means the Nuclear Energy Act, 1999 ([Act No. 46 of 1999](#)).

2. Keeping of records

- (1) The records that must be kept by any person in possession of, using, handling or processing of nuclear material in terms of section 33(3)(a) of the Act are—
 - (a) an updated nuclear material inventory indicating actual quantities, mass, serial number, and composition of material present in the facility, its distribution, any changes, all measurement results, and all corrections made in respect of inventory changes;
 - (b) operating data which is used to establish inventory changes in the quantities and composition of nuclear material in the facility at any time, procedure to control the quality of measurements, procedure to ascertain the cause and magnitude of any accidental or unmeasured loss that might occur; and
 - (c) measuring control programmes including calibration, sampling and analysis, and measurement results used to compile the physical inventory of nuclear material.
- (2) The records contemplated in sub-regulation (1) must be kept permanently and made available to an inspector on request.

3. Reports to Minister

- (1) The reports that must be submitted to the Minister in terms of section 33(3)(b) of the Act by any person in possession of, using, handling or processing nuclear material are—
 - (a) a written initial report detailing the updated nuclear material inventory at the facility within three months of commencement of these Regulations;
 - (b) a written confirmation report within ten days after each calendar month;
 - (c) a written quarterly report of the records contemplated in regulation 2(1)(a), within 30 days of the end of each calendar quarter;
 - (d) a written annual report of the records contemplated in regulation 2(1)(a), on or before 31 January of each calendar year; and
 - (e) in case of a nuclear event, a written report notifying the Minister of the nuclear event within two hours of its occurrence, a written preliminary investigation report within five working days of the nuclear event, and a written final detailed report, within 10 days containing—
 - (i) the time, exact location, and the nature or cause of the nuclear event, and the facility or activity involved;

- (ii) the results of any internal investigation and any remedial action taken;
 - (iii) a description of the nuclear material involved in the nuclear event, including the type of material, the isotopic content of the material, the quantity of the material, the chemical and physical description of the material, and the application of the material;
 - (iv) the particulars of all persons involved in the occurrence of the nuclear event;
 - (v) a description of the contamination or damage to the facility, institution or organisation concerned or to the environment;
 - (vi) a list of persons who have been informed of the nuclear event;
 - (vii) the persons, institutions or organisations linked to the origin and destination of the nuclear material;
 - (viii) a description of the actions taken in order to ascertain the cause and magnitude of any accidental or unmeasured loss of nuclear material that might occur;
 - (ix) a description of the measures taken to prevent the occurrence of the nuclear event;
 - (x) a description of the measures proposed to prevent a recurrence of the nuclear event; and
 - (xi) any other relevant information.
- (2) The reports contemplated in sub-regulation (1) must be kept permanently and must be submitted to the Minister as contemplated in regulation 12.

4. Measurements on nuclear material and maintaining measuring control programmes

- (1) The measurements to be performed on nuclear material in terms of section 33(3)(c) of the Act by any person in possession of, using, handling or processing nuclear material are—
- (a) the verification of quantities and mass of nuclear material received, processed, produced, shipped, lost or otherwise removed from the inventory; and
 - (b) the measurement of the inventory based on sampling for destructive analysis or non-destructive assay.
- (2) The measuring control programme to be maintained in terms of section 33(3)(c) of the Act must include—
- (a) a measurement system approved by a facility to verify material that has been declared;
 - (b) a sampling system;
 - (c) an analysis and evaluation of results by suitably qualified persons;
 - (d) an operator who introduces the measurement system into the operating system;
 - (e) the counting and item identification, or nuclear material transformation calculations, quantitative and qualitative non-destructive assay; and
 - (f) a dedicated in-plant accounting and measurement system.

5. Provision of information on design of nuclear installation and site concerned and all changes effected to the design thereof

- (1) The manner in which the Minister must be provided with information in terms of section 33(3)(d) of the Act, by any person in possession of, using, handling or processing nuclear material includes—
 - (a) details of the existing or proposed company name, business address, geographic location, operational status and estimated or current production capacity of the nuclear installation and site;
 - (b) a description of the nuclear installation and site with reference to the type, location and flow of nuclear material, a map of the site, plant design capacity and the general layout of important process equipment which uses, produces or processes nuclear material;
 - (c) a description of features of the nuclear installation and site relating to security, control, containment and surveillance of nuclear material;
 - (d) key measurement points to measure the flow of nuclear material;
 - (e) a brief description of existing or proposed procedures at the nuclear installation and site for nuclear material accounting and control, including a list of responsible persons; and
 - (f) where changes are to be effected to the design of a nuclear installation and site, a description of all changes, including—
 - (i) the reasons for effecting the changes; and
 - (ii) the expected dates of completion of the changes.
- (2) The information contemplated in sub-regulation (1) must be submitted to the Minister as contemplated in regulation 12—
 - (a) within three months of commencement of these Regulations for all existing nuclear installations and sites; or
 - (b) within three months of—
 - (i) the design of any new nuclear installation or site; or
 - (ii) any changes effected to the design of the nuclear installation or site contemplated in paragraph (a).

6. Physical stocktaking of nuclear material

- (1) The physical stocktaking that must be undertaken in terms of section 33(3)(e) of the Act, by any person in possession of, using, handling or processing nuclear material, must be done within 30 days of the end of each calendar year, and shall be conducted by—
 - (a) the determination of a physical inventory process;
 - (b) the generating or updating of a physical inventory;
 - (c) the measuring of the nuclear material balance; and
 - (d) the investigation and resolving of any discrepancies between a nuclear material balance and book inventory record.
- (2) Inventory report contemplated in sub-regulation (1) must be kept permanently and must be submitted to the Minister within 30 days of the end of each calendar year as contemplated in regulation 12.
- (3) The records contemplated in sub-regulation (1) must be made available to an inspector on request and during inspection.

7. Prior notification of importation and exportation of nuclear material and nuclear-related equipment and material

A person who intends to import or export nuclear material and nuclear-related equipment and material, must submit a written notice at least two weeks prior to the importation or exportation thereof, to the Department of Mineral Resources and Energy as contemplated in regulation 12, which must include—

- (a) the company name and country of the importer or exporter;
- (b) the description and quantity of nuclear material and nuclear-related equipment and material to be imported or exported, including the gross mass of the consignment, batch number and material category;
- (c) the date of the importation or exportation;
- (d) the authorisation number of authority issued in terms of section 34 or section 35 of the Act;
- (e) in the case of importation, the name of the port of import, facility responsible for transportation from the port of import, and the route from the port of import to the end user's site;
- (f) in the case of exportation, the facility responsible for transportation to the port of export, and the route from the exporter's site to the port of export;
- (g) details of the end user of the imported or exported nuclear material and nuclear-related equipment and material;
- (h) a description of the intended use of the nuclear material and nuclear-related equipment and material; and
- (i) any additional information required by the Minister of Mineral Resources and Energy regarding the nuclear material and nuclear-related equipment and material to be imported or exported, as the case may be.

8. Notification on any loss of nuclear material

Any loss of nuclear material contemplated in section 33(3)(h) of the Act regardless of the quantity, concentration or density, must without delay be reported in writing to the Minister.

9. Schedules of planned activities

- (1) A schedule of planned activities to be provided to the Minister in terms of section 33(3)(i) of the Act by any person in possession of, using, handling or processing nuclear material, must be submitted in a written report and must indicate—
 - (a) the date of commencement and duration of the planned activity;
 - (b) a general description of and information specifying the location of the nuclear fuel cycle related to planned research and development activities;
 - (c) a general description of the planned activities and the identity of the person or entity carrying out such activities; and
 - (d) any additional information relevant to the planned activities.
- (2) The written report contemplated in sub-regulation (1) must be submitted to the Minister in accordance with regulation 12 within three months of the commencement of these Regulations and thereafter annually on or before 15 of February of each year.
- (3) The Minister must immediately be informed in writing of any amendment to the report submitted in terms of sub-regulation (2).

10. Application for authorisation for acquisition, possession of, import and certain activities relating to nuclear material

- (1) A person applying for an authorisation in terms of section 34(2) of the Act must complete the relevant form DMRE23 (Application for an authorisation to perform restricted activities within South Africa, relating to restricted material, source material, special fissionable material, nuclear related material and equipment, or technology) or DMRE27 (Application for an authorisation to import and transport restricted material, source material, special fissionable material, nuclear related material and equipment, or technology) contained in Annexure 1, and must lodge the application with the Minister as contemplated in regulation 12.
- (2) Once the authorisation is issued, the responsible person or organisation shall be liable to the conditions of the authorisation and the requirements in accordance with this Regulation.

11. Application for authorisation for exportation of nuclear material

- (1) A person applying for an authorisation in terms of section 35(2) of the Act must complete the form DMRE 25 (Application for an authorisation to transport and export restricted material, source material, special fissionable material, nuclear related equipment and material, or technology) contained in Annexure 2 and must lodge the application with the Minister as contemplated in regulation 12.
- (2) Once the authorisation is issued, the responsible person or organisation shall be liable to the conditions of the authorisation and the requirements in accordance with this Regulation.

12. General

Any application, notice, schedule or report that must be submitted to the Minister or Department in terms of these Regulations, must be submitted to the Director General for the attention of the Deputy Director General: Nuclear Energy Regulation and Management—

- (a) by registered post to the following postal address:

Department of Mineral Resources and Energy

Private Bag X59

Arcadia, 0007; or

- (b) by hand delivery to the following physical address:

Department of Mineral Resources and Energy

71 Trevenna Campus

Corner Meintjies and Francis Baard Streets

Pretoria, 0001.

13. Offences and penalties

Any person who fails to comply with Regulations 2, 3, 4, 5, 6, 7, 8 or 9 or knowingly provides false information in respect of any matter concerning which he or she is required to give information in terms of these Regulations, is guilty of an offence and liable on conviction to a fine or imprisonment not exceeding 12 months.

14. Exemptions

The Minister may exempt any individual, organisation or institution from the requirements of these Regulations, on good cause shown.

15. Short title and commencement

These Regulations are called the Nuclear Non-Proliferation Regulations, 2023, and come into operation on the date of publication in the *Gazette*.

Annexure 1

Application forms in terms of section 34 of the Act

Application form DMRE23 (Application for an authorisation to perform restricted activities within South Africa, relating to restricted material, source material, special fissionable material, nuclear related material and equipment, or technology); or

Application form DMRE27 (Application for an authorisation to import and transport restricted material, source material, special fissionable material, nuclear related material and equipment, or technology).

[Editorial note: The forms have not been reproduced.]

Annexure 2

Application forms in terms of section 35 of the Act

Application form DMRE25 (Application for an authorisation to transport and export restricted material, source material, special fissionable material, nuclear related equipment and material, or technology).

[Editorial note: The forms have not been reproduced.]