

DEPARTMENT OF MINERAL RESOURCES AND ENERGY

NO. R. 1304

11 DECEMBER 2020

NUCLEAR ENERGY ACT, 1999

**INVITATION TO COMMENT ON DRAFT REGULATIONS
REGARDING NUCLEAR NON- PROLIFERATION**

The Minister of Minerals Resources and Energy in terms of section 54(4), hereby publishes for comment the proposed Regulations to be made 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 46 of 1999), as set out in the Schedule.

All interested persons and organisations are hereby invited to submit comments in writing on the proposed Regulations to the Director General: Department of Mineral Resources and Energy, for the attention of the Deputy Director General: Nuclear Energy, by-

- (a) Post to: Department of Mineral Resources and Energy
Private Bag X 96
Pretoria,
0001;

- (b) Hand delivery to: Department of Mineral Resources and Energy
192 Visagie Street,
Corner Paul Kruger and Visagie Streets
Pretoria,
0001; or

- (c) email to: safeguardsregulation@dmre.gov.za

Kindly provide the name, address, telephone number, fax number and email address of the person or organisation submitting the comments. Comments on the draft regulations must be submitted not later than 60 calendar days from the date of publication of this Regulations. Comments received after the closing date may not be considered.

SCHEDULE

Definitions

1. 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-

"customs code" means a code number issued to a person by the South African Revenue Services upon registration in terms section 59A of the Customs and Excise Act, 1964 (Act No. 91 of 1964), to participate in import or export activities regulated by that Act;

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

"facility" means a reactor, critical facility, conversion plant, fabrication plant, reprocessing plant, an isotopic separation plant or a separate storage installation, 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 accidental loss of nuclear material or theft, capable of giving rise to the release of radiation with significant consequences to the public, the environment or the facility;

"nuclear material" includes source material, special nuclear material, restricted material, uranium hexafluoride, nuclear fuel, nuclear related equipment and material, radioactive waste or irradiated fuel, or any technology related to, and software related to.

"planned activity" means any activity associated with the use of nuclear material including the nuclear fuel cycle (NFC), NFC related research and development, design, procurement, construction, commissioning, operation, decommissioning, dismantling, storage, disposal, and any other activity related to nuclear material; and

"the Act" means the Nuclear Energy Act, 1999 (Act No. 46 of 1999).

Keeping of records

2. (1) The records that must be kept by any person in possession of, using, acquiring, producing, manufacturing or processing, transporting, importing, exporting, storing, reprocessing, or disposing 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 nuclear material present in the facility, its distribution, any changes and 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.

Reports to Minister

3. (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, acquiring, producing, manufacturing or processing, transporting, importing, exporting, storing, reprocessing, or disposing of nuclear material are-
- (a) an initial report detailing the updated nuclear material inventory at the facility within three months of commencement of these Regulations;
 - (b) quarterly report of the records contemplated in regulation 2(1)(a), within 30 days of the end of each calendar quarter;
 - (c) an annual report of the records contemplated in regulation 2(1)(a), on or before 31 January of each calendar year; and
 - (d) in case of a nuclear event, a report notifying the Minister of the nuclear event within two hours of its occurrence and, within five working days of the nuclear event, a detailed report 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 organization 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) measures taken to prevent the occurrence of the nuclear event;
- (x) 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.

Measurements on nuclear material and maintaining measuring control programmes

- 4. (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, acquiring, producing, manufacturing or processing, transporting, importing, exporting, storing, reprocessing, or disposing of 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) measurement system approved by facility to verify material that has been declared;
 - (b) a sampling system;
 - (c) analysis and evaluation of results by suitably qualified persons;
 - (d) an operator who introduces the measurement system into the operating system;
 - (e) 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.

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

5. (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 nuclear installation or site license-
- (a) the existing or proposed company name, business address, geographic location, operational status and estimated or current production capacity of the nuclear installation and site concerned;
 - (b) a description of the nuclear installation and site concerned with reference to the type, location and flow of nuclear material, 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 concerned 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 concerned 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 concerned, 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 report 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 concerned; or
- (b) within three months of-
 - (i) the design of any new nuclear installation or site concerned; or
 - (ii) any changes effected to the design of the nuclear installation or site contemplated in paragraph (a).

Physical stocktaking of nuclear material

6. (1) The physical stocktaking that must be undertaken in terms of section 33(3)(e) of the Act, by any person performing restricted activities must be done within 30 days of the end of each calendar year, and shall be conducted in the following manner-
- (a) a physical inventory process must be determined;
 - (b) a physical inventory listing must be generated or updated;
 - (c) the nuclear material balance must be measured; and
 - (d) any discrepancies between nuclear material balance and book inventory record must be investigated and resolved.
- (2) A physical inventory listing 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.

Prior notification of importation and exportation of nuclear material

7. The manner in which notice must be given in terms of section 33(3)(f) of the Act by a person who intends to import or export nuclear material, is that at least two weeks prior written notice must be submitted to the Department as contemplated in regulation 12, indicating-
- (a) the company name and country of the importer or exporter;
 - (b) the description and quantity of nuclear material to be imported or exported, including the gross mass of the consignment, batch number and material category;
 - (c) the date of import or export;
 - (d) authorisation number of authority issued in terms of sections 34 or 35 of the Act;

- (e) in the case of import, 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 export, the facility responsible for transportation to the port of export, and the route from the exporter's site to the port of export;
- (g) the end user of the import or export;
- (h) the intended use of the material; and
- (i) any additional information regarding the nuclear material to be imported or exported, as the case may be.

Notification on any loss of nuclear material

8. Any loss of nuclear material in terms of section 33(3)(h) of the Act regardless of the quantity, concentration or density, must without delay be reported in terms of regulation 3(1)(d).

Schedules of planned activities

9. (1) The 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, acquiring, producing, manufacturing or processing, transporting, importing, exporting, storing, reprocessing, or disposing of 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 nuclear fuel cycle related to research and development activities;
 - (c) a general description of 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 report contemplated in sub-regulation (1) must be submitted to the Minister in accordance with regulation 12 within three months of commencement of these Regulations and thereafter annually on or before 15 February of each year.
- (3) The Minister must immediately be informed in writing of any amendment to the report submitted in terms of subregulation (2).

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

10. A person applying for an authorisation in terms of section 34(2) of the Act must complete the relevant form DMRE23 (Application to possess, acquire, use or transport of, any activities related to nuclear material) or DMRE27 (Import and transport of nuclear material) contained in Annexure 1, and must lodge the application with Minister as contemplated in regulation 12.

Application for authorisation for exportation of nuclear material

11. A person applying for an authorisation in terms of section 35(2) of the Act must complete the form DMRE25 (Transport and export of nuclear material) contained in Annexure 2, and must lodge the application with Minister as contemplated in regulation 12.

General

12. 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-

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

Department of Mineral Resources and Energy
Private Bag X 96
Pretoria, 0001, or

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

Department of Mineral Resources and Energy
192 Visagie Street
Corner Paul Kruger and Visagie Streets
Pretoria, 0001.

Offences and penalties (Section 54 (2))

13. Any person who knowingly provides false information in respect of any matter concerning which he or she is required to give information in terms of these Regulations commits an offence and is liable on conviction to a fine or imprisonment not exceeding 12 months.

Short title and commencement

14. These regulations are called the Nuclear Non-Proliferation Regulations, 2020 and shall 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 to possess, acquire, use or transport of, any activities related to nuclear material and equipment); or

Application form DMRE27 (Application to import and transport nuclear material and equipment).

ANNEXURE 2

Application forms in terms of section 35 of the Act

Application form DMRE25 (Application to transport and export nuclear material and equipment).