Ordinance No.123

of the Government of Georgia

March 10, 2017

Tbilisi

on the Approval of Technical Regulations - the Main Requirements towards the Assessment of the Safety of Radioactive Waste Management Facilities

Article 1

In accordance with subparagraph "c" of Article 15 of the Law of Georgia on Radioactive Waste, to approve the attached Technical Regulations on "Main Requirements towards the Assessment of the Safety of Radioactive Waste Management Facilities".

Article 2

The Ordinance shall come into force upon promulgation.

Prime Minister **Giorgi Kvirikashvili**

The Main Requirements towards the Assessment of the Safety of Radioactive Waste Management Facilities

Article 1. Scope of Regulation

1. The present Technical Regulations have been developed in accordance with laws of Georgia on "Nuclear and Radiation Safety "and on " Radioactive Waste ", Decree No. 189 of the Government of the Government of April 18, 2016 on “Approval of Technical Regulations - Procedure for Radioactive Waste Handling" and in compliance with the national and international requirements and norms in the area of nuclear and radiation safety.

2. The present Technical Regulations shall set the main requirements towards assessment of radioactive waste management facilities.

3. The present Technical Regulations shall apply to the radioactive waste management facilities existing Georgia which, in accordance with the requirements of the Georgian legislation, belong to a high risk radiation site.

4. The main requirements set forth in the present Technical Regulations shall be mandatory for persons implementing the radioactive waste management activities.

Article 2. Goal of the Technical Regulations

The goal of these Technical Regulations is to identify the basic main towards safety assessment of radioactive waste management facilities in order to ensure safety assessment.

Article 3. Definition of Terms Applied in the Technical Regulations

1. **Probabilistic analysis** – A method of analysis, during which a high probability event occurs which may have some impact on the implemented activity and mathematical calculations for deriving outcomes of occurrence of

such event.

2. **Deterministic analysis**- Analysis using, for key parameters, single numerical values, leading to a single value for the result.

3. **Graded approach -** A process or method in which the stringency of the control measures and conditions to be applied is commensurate with the likelihood and possible consequences of, and the level of risk associated with, a loss of control.

4. **Safety analysis**– Evaluation of the potential hazards associated with the operation of a facility or the conduct of an activity.

5. **Safety functions** – A specific purpose that must be accomplished for safety for a facility or activity to prevent or to mitigate radiological consequences of normal operation and/or accident conditions.

6. Other terms used in these Technical Regulations have the same meaning as in the legislation in the area of nuclear and radiation safety.

Article 4. The Main Requirements towards the Assessment of the Safety of Radioactive Waste Management Facilities

1. The main objective of the Safety Assessment is to determine whether the level of safety is achieved in the radioactive waste management facility and during implementation of practical activities and whether it is consistent with national and international requirements.

2. Safety assessment represents evaluation of all aspects of nuclear and radiation safety of the radioactive waste management facility. Safety assessment is carried out on a systematic basis, throughout the entire lifetime and practical activities of the nuclear and radiation facility.

3. Safety assessment of radioactive waste management facility shall be carried out / renewed at the following stages of lifetime and practical activities of the nuclear and radiation facility:

a) Selection of the location for radioactive waste management facility;

b) Development of design for radioactive waste management facility;

c) Construction of radioactive waste management facility;

d) Commissioning of radioactive waste management facility;

e) Modification of design and / or operation of radioactive waste management facility;

f) Life extension of the operation of radioactive waste management facility;

g) Decommissioning /termination of operations of radioactive waste management facility;

h) Remediation of a site of decommissioned radioactive waste management facility and release from regulatory control.

4. In addition to the stages referred to in paragraph 3 of this Article, safety assessment of radioactive waste management facility shall to be carried out with at least 10 year periodicity during its operations and / or as requested by the Regulatory Body.

5. The safety assessment of radioactive waste management facility shall be carried out throughout the entire period of potential threat presence.

6. The safety assessment of radioactive waste management facility shall be carried out by the owner of the nuclear and radiation facility.

Article 5. Graded approach

A graded approach shall be used in determining the scope and level of detail of the safety assessment carried out at a particular stage for any particular facility or activity, consistent with the magnitude of the possible radiation risks arising from the facility or activity.

Article 6. Safety Assessment of Radioactive Waste Management Facility

1. In assessing safety of the radioactive waste management facility, the following aspects should be studied:

a) Preparation for the safety assessment, in terms of assembling the expertise, needs and information;

b) Description of radioactive waste management facility and its operation procedures;

c) Description of the location of radioactive waste management facility;

d) Description of chemical and physical properties of radioactive waste located in radioactive waste manegement facility;

e) Log/registry keeping;

f) Control of maximum total activity limits;

g) Radionuclide discharge levels;

h) Data of person responsible for radioactive waste management facility;

i) Description of physical protection system and access control;

j) Dose rate control on the surface of radioactive waste;

k) Review of incident and emergency response plans;

n) Radiological risks assessment, which may occur as a result of operation, incident and / or emergency;

o) Assessment of radiation protection actions;

p) Assessment of multiple layers of protection;

q) Assessment of safety functions;

r) Assessment of engineering and technical aspects;

s) Assessment of human factors;

t) Assessment of long term safety.

2. Safety analysis should be carried out based on the data collected from the safety assessment.

Article 7. Safety Analysis

1. The performance of a facility or activity in operational states and in the post-operational phase shall be assessed in the safety analysis.

2. The goal of the safety analysis is to determine environmental and human impacts of expected outcomes and causes of incidents and emergencies in operational states and in the post-operational phase of radioactive waste management facility.

3. Safety analysis shall be carried out using deterministic and probabilistic methods. Graded approach should be taken into account when using deterministic and probabilistic methods.

4. For probabilistic method of safety analysis, the model of such expected event shall be selected, which is characterized by maximum probability.

5. Some uncertainties may arise in the process of safety analysis due to two reasons: the probability of analysis and insufficient data when using the deterministic method. Occurrence of possible uncertainties in the analysis shall be minimized.

6. The following aspects shall be reviewed in the safety analysis:

a) Compliance of the facility and radioactive waste handling located in it with safety norms and requirements established by the legislation of Georgia;

b) Consequences of possible incident and emergency during operational states of radioactive waste management facility.

Article 8. Safety Assessment Report

1. The results from safety assessment and safety analysis of the radioactive waste management facility shall be reflected in a form of a safety report.

2. The safety assessment report shall be updated after each new safety assessment of radioactive waste management facility.

3. The safety assessment report of radioactive waste management facility shall be retained for an extended period of time after closure of the facility.

4. The safety assessment report on radioactive waste management facility shall be submitted to the Regulatory Body for approval.

5. If the submitted report does not meet the requirements set forth in the present Technical Regulations, the Regulatory Body is entitled not to approve the report and provide deadline to a presenter of the report for correction of errors.

6. In case of approval of the report, the Regulatory Body shall be authorized to issue recommendations to improve nuclear and radiation safety, physical security and protection of radioactive waste management facility.

7. The results of safety assessment of radioactive waste management facility shall be used:

a) To specify the procedures to be put in place for all operational activities significant to safety, and for responding to anticipated operational occurrences and accidents;

b) To specify the necessary competences for the staff involved in the activity of radioactive waste management facility;

c) To introduce an integrated approach to radioactive waste disposal facility and radioactive waste management.