

Consolidated version as from 1 January 2019

The Order was published on the Register of Legal Acts on 27 May 2015, ID code 2015-08169

THE HEAD OF THE STATE NUCLEAR POWER SAFETY INSPECTORATE

ORDER NO 22.3-103

**ON THE APPROVAL OF NUCLEAR SAFETY REQUIREMENTS BSR-3.2.1-2015
“RADIOACTIVE WASTE ACCEPTANCE CRITERIA FOR NEAR SURFACE
DISPOSAL FACILITIES”**

27 May 2015, Vilnius

Pursuant to subparagraph 3 of paragraph 1 of Article 22 of the Republic of Lithuania Law on Nuclear Energy, paragraph 7 of Article 4 and paragraph 1 of Article 11 of the Republic of Lithuania Law on Nuclear Safety, and subparagraphs 1 and 3 of paragraph 2 of Article 7 of the Republic of Lithuania Law on Management of Radioactive Waste:

1. I h e r e b y a p p r o v e Nuclear Safety Requirements BSR-3.2.1-2015 “Radioactive Waste Acceptance Criteria for Near Surface Disposal Facilities” (accompanying).
2. I h e r e b y p r o c l a i m Oder No 22.3-40 of 27 April 2009 of the Head of the State Nuclear Power Safety Inspectorate “On the Approval of General Requirements for Disposal of Radioactive Waste in the Near Surface Disposal Facilities” to be invalid.
3. I h e r e b y e s t a b l i s h that the Order herein shall come into force as from 1 November 2015.

The Head of the State Nuclear Power Safety Inspectorate

Michail Demčenko

APPROVED

By Order No 22.3-103 of 27 May 2015 of
the Head of the State Nuclear Power Safety
Inspectorate

**NUCLEAR SAFETY REQUIREMENTS
BSR-3.2.1-2015**

**RADIOACTIVE WASTE ACCEPTANCE CRITERIA FOR NEAR SURFACE DISPOSAL
FACILITIES**

**CHAPTER I
GENERAL PROVISIONS**

1. Nuclear Safety Requirements BSR-3.2.1-2015 “Radioactive Waste Acceptance Criteria for Near Surface Disposal Facilities” (hereinafter – the Requirements) define the criteria of acceptance of low- and intermediate-level short-lived radioactive waste for disposal in the near surface disposal facilities and the requirements for packages of radioactive waste upon disposal of low- and intermediate-level short-lived radioactive waste in the near surface disposal facilities.

2. The Requirements are applicable to persons engaged in disposal of low- and intermediate-level short-lived waste in the near surface disposal facility, and conditioning of low- and intermediate-level short-lived radioactive waste to be disposed in the near surface disposal facility.

**CHAPTER II
REFERENCES**

3. The Requirements contain references to the following legal acts of the Republic of Lithuania:

3.1. Commission Regulation (EU) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives (OL 2014 L 365, p.89);

3.2. The Republic of Lithuania Law on Management of Radioactive Waste;

3.3. The Republic of Lithuania Law on Nuclear Safety;

3.4. Lithuanian Hygiene Standard HN 73:2018 “Basic Standards of Radiation Protection”, as approved by Order No 663 of 21 December 2001 of the Minister of Health of the Republic of Lithuania “On the Approval of Lithuanian Hygiene Norm HN 73:2018 “Basic Standards of Radiation Protection”;

3.5. Nuclear Safety Requirements BSR-3.1.2-2017 “Pre-disposal Management of Radioactive Waste at the Nuclear Installations”, as approved by Order No 22.3-120 of 31 December 2010 of the Head of the State Nuclear Power Safety Inspectorate (hereinafter – the VATESI) “On the Approval of Nuclear Safety Requirements BSR-3.1.2-2017 “Pre-disposal Management of Radioactive Waste at the Nuclear Facilities”;

3.7. Nuclear Safety Requirements BSR-1.9.1-2017 “Standards of Release of Radionuclides from Nuclear Installations and Requirements for the Plan on Release of Radionuclides”, as approved by Order No 22.3-89 of 27 September 2011 of the Head of VATESI “On the Approval of Nuclear Safety Requirements BSR-1.9.1-2017 “Standards of Release of Radionuclides from Nuclear Installations and Requirements for the Plan on Release of Radionuclides”;

3.8. European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR), Technical Annexes A and B;

3.9. Convention Concerning International Carriage by Rail (COTIF), Appendix C - Regulations concerning International Carriage of Dangerous Goods by Rail (RID), Annex;

3.10. Agreement on International Freight Traffic by Rail (SMGS), Annex 2 – Rules for Carriage of Dangerous Goods.

CHAPTER III DEFINITIONS

4. The terms and concepts used in the Requirements shall bear the following meanings:

4.1. **Criteria for acceptance of low- and intermediate-level short-lived radioactive waste for disposal in near surface disposal facilities (hereinafter – the radioactive waste acceptance criteria)** – qualitative and quantitative properties of the particular radioactive waste disposal facility, based on which low- and intermediate-level short-lived radioactive waste and waste packages are considered in terms of their suitability for disposal therein.

4.2. **Radioactive waste immobilisation (hereinafter – immobilisation)** – treatment of radioactive waste, where liquid radioactive waste is converted into solid form (solidification), dispersed radioactive waste is mixed with the binding material (encapsulation), and solid radioactive waste is incorporated into the binding material (embedding).

4.3 **Radioactive waste characterisation** – determination of the physical, chemical and radiological properties of radioactive waste before undertaking subsequent waste management activities (pre-treatment, treatment and conditioning) or for deciding on their suitability for handling, processing, storage and disposal.

4.4. **Description of radioactive waste packages** – a document specifying the requirements for the properties of a series of radioactive waste packages, describing the tests and assessments carried out to support the properties of packages specified therein, and the required quality controls.

4.5. **Series of radioactive waste packages** – the packages of radioactive waste with similar physical, chemical, radiological and other properties in terms of the sources of generation, treatment and packaging of such radioactive waste.

5. Other terms and concepts used herein shall bear the meanings defined in the legal acts referred to in subparagraphs 3.2, 3.3, 3.4 and 3.5 of the Requirements.

CHAPTER IV RADIOACTIVE WASTE ACCEPTANCE CRITERIA FOR DISPOSAL FACILITY

SECTION ONE GENERAL PROVISIONS

6. Radioactive waste shall be suitable for disposal in a disposal facility only when such radioactive waste has been conditioned and immobilised. Immobilised radioactive waste shall be of homogeneous consistence, i.e. as a single homogenous block of conditioned radioactive waste.

7. The packages of radioactive waste shall be of a condition that their emplacement in a storage or disposal facility ensures that the activity of radionuclides discharged to environment (air and water) and radiation exposure dose induced by radionuclides do not exceed the authorised limits set forth in the legal act referred to in subparagraph 3.4 of the Requirements based on the procedure stipulated in the legal act referred to in subparagraph 3.7 of the Requirements, and that the levels thereof are maintained as low as possible, economic and social factors being taken into account.

8. The packages of radioactive waste shall not contain any free liquids.

9. The design, form and external dimensions of a radioactive waste package shall be compatible with the equipment that is used for waste handling, carriage and disposal.

10. The initial and/or updated safety analysis report of radioactive waste treatment facility shall contain assessment of ageing of conditioned radioactive waste in a storage facility during its pre-disposal phase.

11. Radioactive waste packages and/or overpack shall be marked with a suitable identification unique to each package and/or overpack. The marking shall remain clearly visible until the package and/or overpack is filled with contents, for as long as radioactive waste package becomes no longer retrievable from a disposal facility or the package become no longer retrievable from overpack.

SECTION TWO IONISING RADIATION PROPERTIES

12. It is required to determine the radionuclide contents in the immobilised waste: specific activities of individual radionuclides present in the immobilised waste and total activities of alpha, beta and gamma emitters. Any deviations of the measured radionuclide activities shall have numerical values to assess data for uncertainty. The suitability of radioactive waste package for disposal in a disposal facility shall be determined in accordance with the methodology set forth in Annex 1 to the Requirements.

13. The mass of fissile materials present in the package of radioactive waste shall be limited so that the radioactive waste package is not subject to the transport requirements applicable to fissile materials set forth in the legal acts referred to in subparagraphs 3.8-3.10 of the Requirements (depending on the mode of transport), and so that compliance with the provisions set forth in paragraph 10 of Annex 1 to the Requirements is ensured.

14. It is necessary to assess physical and chemical effects induced by ionising radiation on immobilised waste, containers and ancillary equipment.

15. The dose rate on the surface of radioactive waste packages and contamination with radionuclides shall be maintained at a level to ensure that:

15.1. during the handling, storage and disposal of radioactive waste packages, the occupational and public radiation exposures do not exceed the authorised limits set forth in the legal act referred to in subparagraph 3.6 of the Requirements, and that the levels thereof are maintained as low as possible, economic and social factors being taken into account;

15.2. during the carriage of radioactive waste packages, compliance with the requirements for safe transportation of radioactive waste set forth in the legal acts referred to in subparagraphs 3.8-3.10 of the Requirements (depending on the mode of transport) is ensured.

SECTION THREE CHEMICAL PROPERTIES

16. The immobilised radioactive waste shall be assessed for resistance to dissolution and leaching and the integrity of the entire radioactive waste package shall be confirmed by way of standard testing procedures (for example, those approved by the International Organisation for Standardization), if any. In case of absence of standard testing procedures, the tests shall be carried out with reference to the licence holder's descriptions of testing procedures designed to determine resistance of immobilised waste to dissolution and leaching.

17. The chemical composition of immobilised radioactive waste shall be determined to identify its hazardous properties. The hazardous properties shall be understood as laid down in the annex to the legal act referred to in subparagraph 3.1 of the Requirements. The substances with hazardous properties shall be either eliminated or, except otherwise provided for in the Requirements, their volume shall be kept as low as technically feasible.

18. Radioactive waste containing chemically active substances shall not be accepted for disposal in a disposal facility.

19. During the pre-treatment phase, the components of radioactive waste shall be assessed for their chemical compatibility with the substances that are added during waste immobilisation.

20. The radioactive waste packages shall be assessed for resistance to corrosion. Upon erosion of containers and dispersal of radionuclides to the environment, the radiation exposure dose induced by radionuclides shall not exceed the authorised limits set forth in the legal act referred to in subparagraph 3.4 of the Requirements.

21. Materials having a flash point below 60°C shall not be accepted for disposal in a disposal facility. If radioactive waste might be flammable, it shall be checked through testing. When radioactive waste is found to have the property of flammability, such waste shall be subject to treatment leading to elimination of such a property. Radioactive waste containing pyrophoric substances shall not be accepted for disposal in a disposal facility.

22. The radioactive waste packages shall not contain any chemical substances or articles that might cause explosion. Such substances shall be eliminated during the treatment phase of radioactive waste.

23. The description of radioactive waste shall take into account the potential of occurrence of flammable and explosive gas due to volatile substances present in the radioactive waste and due to corrosion of metals (for example, iron, aluminium and others) or any other chemical reactions and biochemical decomposition of organic material or nuclear transformation. Protective measures shall be in place to prevent from accumulation of flammable and explosive gas inside the radioactive waste package, as well as from fire and explosion or decay of radioactive waste package.

24. The volume of organic material present inside the radioactive waste packages (for example, complexing agents, cellulose and others) shall be assessed and kept as low as technically feasible in order to avoid the consequences of decomposition of organic material.

SECTION FOUR PHYSICAL PROPERTIES

25. The permeability of immobilised radioactive waste and radioactive waste packages shall be as high as to allow release of gas and as low as to allow constrain of water migration and leaching of radionuclides. The porosity of immobilised radioactive waste shall be as low as possible, i.e. such that ensures better microstructure and maintains dispersion of radionuclides at a level as low as technically feasible.

26. Radioactive waste in liquid and pulp form shall be distributed homogeneously inside the radioactive waste package. During the packaging and cementation of solid radioactive waste, such waste shall be arranged in the radioactive waste package in a way that achieves homogeneous distribution of activity therein (i.e. as technically feasible).

27. Void spaces within the radioactive waste package shall be minimised and kept as low as possible so that radioactive waste is immobilised and does not impair any other properties, such as resistance and permeability.

SECTION FIVE MECHANICAL PROPERTIES

28. Resistance of radioactive waste packages to external mechanical impacts (compression, stretching, bending, drop and crash) shall ensure that the radioactive waste package is not damaged during its handling, storage and disposal, and shall be maintained at level adequate to ensure compliance with the transportation requirements laid down in the legal acts referred to in subparagraphs 3.8-3.10 of the Requirements (depending on the mode of transport). Resistance of radioactive waste packages to external mechanical impacts shall be determined by way of standard testing procedures.

29. The immobilised radioactive waste shall have a structure that prevents from its decay to an extent where the activity levels of dispersed radionuclides exceed the authorised limits established in accordance with the procedure set forth in the legal act referred to in subparagraph 3.7 herein, and where the radiation exposure induced by them exceeds the authorised limits established in the legal act referred to in subparagraph 3.4 of the Requirements (e.g., decay of radioactive waste packages can be caused by swelling of immobilised radioactive waste, increase in pressure or impairment of mechanical strength due to temperature variations or humidity effects).

SECTION SIX THERMAL PROPERTIES

30. The radioactive waste package shall comply with fire-resistance requirements laid down in the legal acts referred to in subparagraphs 3.8-3.10 of the Requirements (depending on the mode of transport). The activity of radionuclides dispersed from the radioactive waste package as a result of external fire impact shall not exceed the authorised limits laid down in the legal act referred to in subparagraph 3.4 of the Requirements.

31. The design of the radioactive waste package shall take into account the potential lowest ambient temperature of $-40\text{ }^{\circ}\text{C}$. Cyclical variations in temperature shall not lead to instability or significantly impair resistance of the radioactive waste package. Resistance of radioactive waste package is deemed to be significantly impaired when the package does not satisfy the criteria for capability of radioactive waste packages to resist the effects of cyclical variations in temperature, as laid down in the description of testing procedures, in view of radioactive waste acceptance criteria.

CHAPTER V DESCRIPTION OF RADIOACTIVE WASTE PACKAGES

32. The descriptions of radioactive waste packages shall be used to determine the quality of radioactive waste packages. The descriptions shall contain information as to compliance of conditioned radioactive waste packages with the Requirements herein and with the radioactive waste acceptance criteria to ensure that the need for any repeated conditioning in the future is maintained at a minimum level. The description of radioactive waste packages shall also indicate the values of parameters, including the deviations, which are permitted in view of the radioactive waste acceptance criteria.

33. Prior to bringing the radioactive waste conditioning facility into operation, the waste generator shall define the characteristics of waste and prepare the description of radioactive waste packages in respect of each series of conditioned immobilised low- and intermediate-level short-lived radioactive waste packages to be disposed in a disposal facility, as laid down in the provisions stipulated in Annex 2 to the Requirements.

34. When a single large component is to be disposed in a disposal facility, such component shall be analysed as a series of radioactive waste packages.

35. Radioactive waste manager (hereinafter – the Manager) shall check the descriptions of radioactive waste packages and assess the radioactive waste packages for compliance with the Requirements herein and with the radioactive waste acceptance criteria, and whether the scope of characteristics of radioactive waste is sufficient for process control.

CHAPTER VI QUALITY ASSURANCE OF RADIOACTIVE WASTE PACKAGES

36. The waste generator shall be responsible for ensuring that the radioactive waste management processes encompassing quality assurance of raw materials used in the treatment, the manufacturing process and the final product are in conformity with the requirements of the legal act referred to in subparagraph 3.5 of the Requirements.

37. The description of radioactive waste packages shall provide evidence supporting that the radioactive waste packages are in line with the functional requirements.

38. Written procedure descriptions approved by the waste generator shall be used for control and inspection of conditioning parameters. Inspection of the radioactive waste management system shall be included in the internal audit programme of the waste generator, which is prepared in accordance with the provisions laid down in the legal act referred to in subparagraph 3.5 of the Requirements.

39. Having assessed the technical properties of radioactive waste packages and the disposal facility, the Manager shall prepare the description of procedure for acceptance of radioactive waste from the waste generator, specifying the procedures of acceptance of radioactive waste for disposal in a disposal facility.

40. The Manager shall check and analyse on a systematic basis the manufacturing process of radioactive waste packages and use sampling approach to assess whether the conditioned radioactive waste meets the radioactive waste acceptance criteria.

41. At the time of acceptance for disposal in a disposal facility, the Manager shall undertake non-destructive and/or destructive controls of radioactive waste packages in line with the procedure laid down in the description of procedure for acceptance of radioactive waste from the waste generator.

CHAPTER VII FINAL PROVISIONS

42. In the event of failure to comply with the Requirements herein, the person shall be held liable in accordance with the procedure laid down in the legal acts of the Republic of Lithuania.

**METHODOLOGY FOR DETERMINING THE ACTIVITY LIMITS FOR LOW- AND
 INTERMEDIATE SHORT-LIVED RADIOACTIVE WASTE PACKAGES TO BE
 DISPOSED IN NEAR SURFACE DISPOSAL FACILITIES**

1. The activity limits shall be determined (updated) in view of the safety analysis and justification results of the radioactive waste disposal facility (hereinafter – the disposal facility), where the disposal of packages of low- and intermediate-level short-lived radioactive waste (hereinafter – the radioactive waste) is expected to take place. When determining the activity limits, the following factors shall be taken into account: the ionising radiation emitted from the radioactive waste package (the occupational and public radiation exposures shall not exceed the authorised limits set in the legal act referred to in subparagraph 3.4 of Nuclear Safety Requirements BSR-3.2.1-2015 “Radioactive Waste Acceptance Criteria for Near Surface Disposal Facilities”), heat release, criticality, maximum specific activity levels of radionuclides.

2. In respect of each series of radioactive waste packages, the activity limits of radionuclides shall be calculated in view of the dose limits and dose constraints for occupational and public exposures as stipulated in the legal act referred to in subparagraph 3.4 of the Requirements, and in accordance with the procedure laid down in the legal act referred to in subparagraph 3.7 of the Requirements.

3. The inadvertent human intrusion scenario shall provide for that the intrusion takes place immediately after the end of post-closure surveillance of the disposal facility. The specific activity limits of radionuclides shall be determined so that in the event of inadvertent human intrusion, the annual effective dose of public radiation exposure does not exceed 10 mSv.

4. The natural evolution scenario of the disposal facility shall provide for the modelling of leaching of radionuclides from a disposal facility caused by ageing of the disposal facility’s barriers. In such a case, the internal and external public exposures are caused by release of radionuclides to the environment. The specific activity limits of radionuclides shall be determined in a way that in the event of ageing or decay of the disposal facility’s barriers the dose constraint is not exceeded, as stipulated in the legal act referred to in subparagraph 3.4 of the Requirements.

5. The operational life-time scenario of the disposal facility shall provide for the assessment of consequences of plausible operation events. The specific activity limits of radionuclides shall be determined in a way that in case of occurrence of the events stipulated in the scenarios, the occupational exposure dose and the public exposure dose do not exceed the dose limit and the dose constraint as set forth in the legal act referred to in subparagraph 3.4 of the Requirements.

6. The specific activity limit $A_{i,max}$ values shall be calculated in case of the disposal facility’s natural evolution scenario, $B_{i,max}$ values shall be calculated in case of the disposal facility’s operational lifetime scenario, and $C_{i,max}$ values shall be calculated in case of inadvertent human intrusion scenario.

7. The specific activity limits of individual radionuclide per radioactive waste package shall be calculated as follows:

$$A_{i,max} = \frac{E_{crit} C_i}{E_{LA}}, \quad (1)$$

$$B_{i,\max} = \frac{E_{Rib} Q_i}{E_{i,B}}, \quad (2)$$

$$C_{i,\max} = \frac{E_{Rib} Q_i}{E_{i,C}}. \quad (3)$$

Where E_{Rib} is the effective dose, which shall not be exceeded considering the exposure levels under the respective scenarios, $E_{i,A}$, $E_{i,B}$ and $E_{i,C}$ are the effective dose of radionuclide i under the scenarios of natural evolution, operational lifetime and inadvertent human intrusion, respectively. Q_i is the initial specific activity of a radionuclide at the time of disposal in the disposal facility.

8. The radioactive waste packages are suitable for disposal in the disposal facility, provided they satisfy the following inequalities:

$$\sum_i \frac{Q_i}{A_{i,\max}} \leq 1, \quad (4)$$

$$\sum_i \frac{Q_i}{B_{i,\max}} \leq 1, \quad (5)$$

$$\sum_i \frac{Q_i}{C_{i,\max}} \leq 1. \quad (6)$$

Where Q_i is the average specific activity of a radionuclide per radioactive waste package.

9. If the value calculated in respect of the specific radioactive waste package based on formula (4) is higher than 1, but lower than 10, such a radioactive waste package shall be suitable for disposal in the disposal facility, provided the average value calculated in respect of all packages present in a single disposal facility warehouse remains lower than 1.

10. Long-lived alpha radiation emitters are subject to additional limitation – their specific activity level for individual radioactive waste package shall not be higher than 4000 Bq/g, provided the average specific activity of long-lived alpha radiation emitters which is calculated with reference to the average value in respect of all packages is not higher than 400 Bq/g.

REQUIREMENTS FOR THE DESCRIPTION OF RADIOACTIVE WASTE PACKAGES

No	Chapter of the description of radioactive waste packages (hereinafter – the description)	Requirements for the contents
1.	Cover page	Indicate the series of packages for which the description is intended, provide the marks of the description developer, approval and effective date of the description.
2.	Introduction	Describe the series of radioactive waste packages, the radioactive waste generation sources, and indicate the class of radioactive waste in line with the provisions laid down in the legal act referred to in subparagraph 3.5 of Nuclear Safety Requirements BSR-3.2.1-2015 “Radioactive Waste Acceptance Criteria for Near Surface Disposal Facilities” (hereinafter – the Requirements).
3.	Waste treatment sequence	Describe the manufacturing of series of radioactive waste packages, provide the specifications of its storage, transportation to the storage or disposal facility.
4.	Quality criteria and quality assurance	<p>1) Provide the functional acceptance requirements for radioactive waste. Indicate the stage of treatment of radioactive waste for which the requirement is restrictive in nature. Provide the numerical values for quantitative parameters by indicating potential limits.</p> <p>2) Provide the justification that the package parameters and properties comply with the radioactive waste acceptance criteria. Identify the parameters predetermining the quality of radioactive waste package, by making the list of such parameters and providing the description of the way they will be verified and monitored. Such description shall be prepared in a way that allows for technical assessment of compliance of immobilised radioactive waste with the radioactive waste acceptance criteria.</p> <p>3) Describe the radioactive waste conditioning facility and the operator’s preparedness to monitor compliance of all identified parameters. The latter shall contain a detailed specification of preparedness to inspect the packages in accordance with the requirements of the description of radioactive waste packages. Such description shall cover all actions and resources that are necessary to ensure compliance of the packages with the requirements laid down in</p>

		the legal acts of the Republic of Lithuania and the description of the radioactive waste packages.
5.	Radioactive waste generation	<p>1) Describe the radioactive waste by indicating the owner, the source of generation, the volume of waste (cubic metres), and the weight of waste (tonnes).</p> <p>2) Provide numerical values of data on measured or estimated radionuclide contents of raw radioactive waste, total and specific activity limits, describe the physical and chemical properties of raw radioactive waste.</p> <p>3) Indicate the activity levels of radionuclides and other properties that may adversely affect the suitability of packages for disposal in the disposal facility.</p>
6.	Container (applicable solely to overpack)	<p>1) Describe the container to be used for the placement of conditioned radioactive waste therein, including dimensions, material, mechanical and physical properties of the container, and weight of empty container.</p> <p>2) Specify the technical manufacturing conditions of the container, accompanied by a drawing, certificate, and registration code. Specify the container's fill material and the mass of full container in case the container with packages is delivered to the disposal facility as filled with fill material.</p>
7.	Conditioning	<p>1) Provide the technical specification of conditioning process together with the drawings or schemes illustrating the specification.</p> <p>2) Describe the previous stages of treatment of radioactive waste, including pre-treatment (if any) and storage.</p> <p>3) Describe the preparedness to monitor and limit the quantity of hazardous materials (referred to in Chapter IV of the Requirements) in radioactive waste.</p> <p>4) Determine the quantity of fissile material inside the package and demonstrate that it does not exceed the authorised limits. Describe the preparedness to monitor the quantity of fissile material inside individual package.</p> <p>5) Describe the preparedness to handle non-compliant packages.</p>
8.	Specification of conditioned radioactive waste	<p>1) Provide the description of immobilised radioactive waste, including indication of radionuclide contents, total and specific activity levels.</p> <p>2) Indicate the chemical composition of waste and binding material, the voidage (%), the degree of homogeneity and mechanical strength.</p> <p>3) Provide radionuclide leaching and dispersion measurement results.</p>
9.	Specification of radioactive waste packages	<p>1) Indicate the average and limit values of properties and parameters, as well as total and specific activity levels characteristic to the specific series of packages, as stipulated in Chapter IV of the Requirements.</p> <p>2) Indicate the average and limit values of package weight and dose rate on the surface of the package.</p> <p>3) Provide package assessment data, including data on mechanical strength, resistance to ionising radiation effects, fire-resistance, void spaces, durability and leaching of radionuclides.</p> <p>4) Indicate the system and methods of registration, marking/labelling and coding of packages, by providing a unique identifier (digital or bar code) for each package and electronic data storage form (data base).</p>

		5) Based on the requirements of the legal act referred to in subparagraph 3.5 of the Requirements, prepare a standard document (package passport) as an integral part of the description of the series of packages (annex).
10.	Research and calculation results	Provide all research and calculation results in respect of containers, immobilised radioactive waste and their packages.
11.	Documentation	<p>1) Provide the technical standard documents of operator of the radioactive waste management facility and the disposal facility to demonstrate compatibility of the radioactive waste package with the properties laid down in the description of radioactive waste package.</p> <p>2) In the absence of standard testing procedures, provide the descriptions of testing procedures for immobilised radioactive waste and packages (e.g., solubility and leaching tests of immobilised radioactive waste and tests demonstrating resistance of radioactive waste packages to cyclical variations in temperature).</p>
