

**NUCLEAR SAFETY REQUIREMENTS
BSR-4.1.2-2019**

**“REQUIREMENTS FOR DOCUMENTS ACCOMPANYING APPLICATION FOR
ISSUANCE OF LICENCE TO TRANSPORT NUCLEAR FUEL CYCLE, NUCLEAR AND
FISSILE MATERIALS”**

**CHAPTER I
GENERAL PROVISIONS**

1. Nuclear Safety Requirements BSR-4.1.2-2019 “Requirements for Documents Accompanying Application for Issuance of Licence to Transport Nuclear Fuel Cycle, Nuclear and Fissile Materials” (hereinafter – the Requirements) set the requirements for documents accompanying application for issuance of the licence referred to in subparagraph 6 of paragraph 1 of Article 22 of the Republic of Lithuania Law on Nuclear Safety.

2. The Requirements are applicable to the applicants seeking to obtain the licence referred to in subparagraph 6 of paragraph 1 of Article 22 of the Republic of Lithuania Law on Nuclear Safety, as well as to the holders of the licence referred to in subparagraph 6 of paragraph 1 of Article 22 of the Republic of Lithuania Law on Nuclear Safety (both hereinafter – the applicant).

**CHAPTER II
REFERENCES**

3. The Requirements contain references to the following international treaties, legal acts of the Republic of Lithuania and documents of the International Atomic Energy Agency (IAEA):

3.1. The IAEA’s Regulations for the Safe Transport of Radioactive Material No. SSR-6, 2018 (hereinafter – SSR-6);

3.2. The European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR), Technical Appendixes A and B (hereinafter – ADR);

3.3. The Convention Concerning International Carriage by Rail (COTIF), Appendix C - Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID) (hereinafter – RID);

3.4. The Law on Nuclear Safety;

3.5. The Regulations for Issuance of Licences and Permits to Engage in Activities in the Area of Nuclear Energy, approved by Resolution No. 722 of 20 June 2012 of the Government of the Republic of Lithuania “On the Approval of Regulations for Issuance of Licences and Permits to Engage in Activities in the Area of Nuclear Energy” (hereinafter – the Licensing Regulations);

3.6. Nuclear Safety Requirements BSR-1.4.1-2016 “Management System”, approved by Order No. 22.3-56 of 21 June 2010 of the Head of the State Nuclear Power Safety Inspectorate “On the Approval of Nuclear Safety Requirements BSR-1.4.1-2016 “Management System”;

3.7. Nuclear Safety Rules BST-1.6.1-2012 “Preparation of Physical Security Plan”, approved by Order No. 22.3-104 of 4 September 2012 of the Head of the State Nuclear Power Safety Inspectorate “On the Approval of Nuclear Safety Rules BST-1.6.1-2012 “Preparation of Physical Security Plan”;

3.8. Nuclear Safety Requirements BSR-1.4.4-2019 “Use of Experience of Individuals Operating in Nuclear Energy Industry”, approved by Order No. 22.3-148 of 4 July 2019 of the Head of the State Nuclear Power Safety Inspectorate “On the Approval of Nuclear Safety Requirements BSR-1.4.4-2019 “Use of Experience of Individuals Operating in Nuclear Energy Industry”.

3.9. Nuclear Safety Requirements BSR-1.8.7-2020 "Safety of licensed activities with nuclear and fissile materials regulated by the State Nuclear Power Safety Inspectorate", approved by

Order No. 22.3-15 of the Head of the State Nuclear Power Safety Inspectorate of 17 January 2020 approving the Nuclear Safety Requirements BSR-1.8.7-2020 "Safety of licensed activities with nuclear and fissile materials regulated by the State Nuclear Power Safety Inspectorate.

CHAPTER III REQUIREMENTS FOR DESCRIPTION OF ACTIVITIES AND SAFETY JUSTIFICATION REPORT

4. The description of activities to be submitted in accordance with subparagraph 10.1 of the Licensing Regulations shall contain as follows:

4.1. the description of the applicant's organisation and planned activities of transport of nuclear fuel cycle, nuclear and fissile materials (hereinafter – the activities) with indication of the objective, scope and complexity of the transport activities;

4.2. the list of standards adopted or to be adopted by the organisation;

4.3. the quality assurance criteria for the activities, safety assurance principles, norms and requirements that are or will be applied by the organisation in the process of transport of nuclear fuel cycle materials, nuclear and fissile materials in the established quantities as specified in Annex 1 of the legal act referred to in subparagraph 3.4 of the Requirements (hereinafter – the nuclear fuel cycle, nuclear and fissile materials);

4.4. the description of expected transport routes, including the description of buildings and facilities in which it is planned to engage in transport-related activities (e.g., preparation for transportation, collection from departure point and acceptance at destination point of nuclear fuel cycle, nuclear and fissile materials). This requirement shall not be applicable to transportation of orphan nuclear fuel cycle materials, orphan nuclear and fissile materials;

4.5. the description of vehicles that are or will be used in the activities (name, technical characteristics (taken from the technical passport), purpose (with the indication of nuclear fuel cycle, nuclear and/or fissile materials for which the vehicle is intended), including the organisational and technical limitations (e.g., in respect of the mass, external dimensions of the vehicle), if any, that are applicable to transportation of nuclear fuel cycle, nuclear and fissile materials;

4.6. the description of packages and containers that are and/or will be used in the activities (type, technical characteristics (taken from the technical passport or certificate of approval of the package design), purpose (with the indication of nuclear fuel cycle, nuclear and/or fissile materials for which the container is intended), including limitations (e.g., in respect of capacity, package form or external dimensions), if any;

4.7. the description of temporary storage facilities for the nuclear fuel cycle, nuclear and fissile materials that are or will be used in the activities, if the temporary storage of the materials is expected in the course of transportation.

5. The safety assessment report submitted in accordance with subparagraph 10.1 of the Licensing Rules shall include:

5.1. the objective and scope of safety justification;

5.2. the description of risks pertaining to transport of the nuclear fuel cycle, nuclear and fissile materials imposed on people, property and environment (characterisation and qualitative assessment), including the specification of measures aimed at limiting and managing such risks;

5.3. a criticality safety analysis carried out in accordance with the legal act referred to in paragraph 3.9 of the Requirements (only for cargoes which are marked "FISSILE" in accordance with subsection 2.2.7.2.3.5 of the legal act referred to in paragraph 3.2 and/or subparagraph 2.2.7.2.3.5 of the legal act referred to in paragraph 3.3 of the Requirements);

5.4. the list of plausible accidents and incidents, including the assessment of their consequences;

5.5. the summarised results of the safety analysis;

5.6. the limitations set in respect of the activities (e.g., natural conditions for conduct of activities, individual dose limits for employees), if any;

5.7. the conclusion on compliance of the activities with the legal acts regulating nuclear safety, radiation protection and physical security, with the standards referred to in subparagraph 4.2 of the Requirements, and with the technical normative documents of the applicant, as well as the conclusion on emergency preparedness at the time of transportation of the nuclear fuel cycle, nuclear and fissile materials.

CHAPTER IV REQUIREMENTS FOR RADIATION PROTECTION DOCUMENTS

6. The radiation protection documents referred to in subparagraph 10.2 of the Licensing Regulations shall contain information evidencing that the applicant seeking the licence will ensure, whereas the licence holder ensures in the pursued activities, the radiation protection.

7. The radiation protection guidelines intended for the applicant's employees who are subject to radiation exposure (hereinafter – the employees), as referred to in subparagraph 10.2.3 of the Licensing Regulations, shall describe the actions to be taken by the employees participating in or conducting transportation of the nuclear fuel cycle, nuclear and fissile materials (at the time of preparation for transportation, transportation, temporary storage) that are aimed at ensuring the radiation protection, including:

7.1. the scope of the radiation protection guidelines;

7.2. the functions and responsibilities pertaining to the job position, including that of a consultant on safety of carriage of dangerous goods or safety consultants that are obligatory for the entity engaged in carriage of dangerous goods and subject to the radiation protection guidelines, as stipulated in subsection 1.8.3.1 of ADR (in case of carriage by road) or subsection 1.8.3.1 of RID;

7.3. the references to the legal acts that were followed while drafting the radiation protection guidelines intended for the applicant's employees;

7.4. the principal radiation protection requirements for preparation or transportation of the nuclear fuel cycle, nuclear and fissile materials;

7.5. the actions of employees and applicable radiation protection measures taken during transportation of the nuclear fuel cycle, nuclear and fissile materials;

7.6. the actions of employees and applicable radiation protection measures taken during loading and securing the packages of the nuclear fuel cycle, nuclear and fissile materials into the vehicle, provided such actions are taken by the applicant's employees;

7.7. the actions of employees and applicable radiation protection measures taken during acceptance/delivery of packages of the nuclear fuel cycle, nuclear and fissile materials from/to shipper/receiver, provided such actions are taken by the applicant's employees;

7.8. the actions of employees and applicable radiation protection measures taken during segregation and/or isolation of packages of the nuclear fuel cycle, nuclear and fissile materials, provided such actions are taken by the applicant's employees;

7.9. the annexes to the guidelines (e.g., drawings, templates, tables), if any.

8. The description of procedure for arrangement of medical examination of the applicant's employees, which is submitted in accordance with subparagraph 10.2.4 of the Licensing Regulations, shall specify:

8.1. the intended purpose of the mandatory medical examination;

8.2. the list of job positions that are required to have medical examination due to occupational exposure to ionising radiation or the sources of ionising radiation;

8.3. the individual responsible for the arrangement of mandatory medical examination of the employees, and the functions of such an individual;

8.4. the legal or natural person conducting mandatory medical examination of the employees;

8.5. the procedure for arrangement of medical examination of the employees, including the procedure for registration and storage of data pertaining to the medical examination.

9. The description of procedure for training and instruction of the applicant's employees on radiation protection matters, which is submitted in accordance with subparagraph 10.2.5 of the Licensing Regulations, shall specify:

- 9.1. the intended purpose of training of the employees on radiation protection matters;
- 9.2. the individual responsible for arrangement of training of the employees on radiation protection matters, and the functions of such an individual;
- 9.3. the legal or natural person conducting training of the employees on radiation protection matters;
- 9.4. the procedure for arrangement of training of the employees on radiation protection matters, including the procedure for registration and retention of related data;
- 9.6. the individual responsible for instruction of the employees on radiation protection matters, and the functions of such an individual;
- 9.7. the individual conducting instruction of the employees on radiation protection matters;
- 9.8. the procedure for arrangement of instruction of the employees on radiation protection matters, including the procedure for registration and retention of related data.

10. The description of procedure for training and instruction of the applicant's employees on matters of safe carriage of radioactive materials, which is submitted in accordance with subparagraph 10.2.5 of the Licensing Regulations, shall specify:

- 10.1. the intended purpose of training of employees on matters of safe carriage of radioactive materials;
- 10.2. the individual responsible for arrangement of training of employees on matters of safe carriage of radioactive materials, and the functions of such an individual;
- 10.3. the institution or individual conducting the training of employees on matters of safe carriage of radioactive materials;
- 10.4. the procedure for arrangement of training of the employees on matters of safe carriage of radioactive materials, including the procedure for registration and retention of related data;
- 10.5. the intended purpose of instruction of the employees on matters of safe carriage of radioactive materials;
- 10.6. the individual responsible for arrangement of instruction of the employees on matters of safe carriage of radioactive materials, and the functions of such an individual;
- 10.7. the institution or individual conducting instruction of the employees on matters of safe carriage of radioactive materials;
- 10.8. the procedure for arrangement of instruction of the employees on matters of safe carriage of radioactive materials, including the procedure for registration and retention of related data.

11. The description of procedure for monitoring of occupational radiation exposure and work places of the applicant's employees, which is submitted in accordance with subparagraph 10.2.6 of the Licensing Regulations, shall specify:

- 11.1. the purpose and means of monitoring of occupational radiation exposure and work places;
- 11.2. the individual responsible for monitoring of occupational radiation exposure and work places, and the functions of such an individual;
- 11.3. the list of job positions that are subject to monitoring of occupational radiation exposure and work places;
- 11.4. the procedure for monitoring of occupational radiation exposure and work places;
- 11.5. the list of work places, facilities and vehicles that are subject to monitoring for radiological contamination;
- 11.6. the procedure for monitoring of work places, facilities and vehicles that are subject to monitoring for radiological contamination.

CHAPTER V REQUIREMENTS FOR PHYSICAL SECURITY DOCUMENTS

12. The declaration referred to in subparagraph 10.3 of the Licensing Regulations shall specify the name of the institution conducting physical security (in case physical security is conducted not by the applicant's employees), the name of the organisation fulfilling the function of response forces, as well as the effective date and expiry date (if the term is fixed) of the agreements signed with such an institution and organisation.

13. The requirements for the physical security plan in respect of carriage of nuclear fuel cycle, nuclear and fissile materials, as mentioned in subparagraph 10.4 of the Licensing Regulations, are stipulated in the legal act referred to in subparagraph 3.7 of the Requirements.

CHAPTER VI REQUIREMENTS FOR DESCRIPTION OF THE APPLICANT'S MANAGEMENT SYSTEM AND ORGANISATIONAL STRUCTURE

14. The description of the applicant's management system and organisational structure, which is submitted in accordance with subparagraph 10.5 of the Licensing Regulations, shall be drafted in line with the general requirements for the organisation's management system set forth in the legal act referred to in subparagraph 3.6 of the Requirements.

15. The description of the applicant's management system and organisational structure shall contain information about:

15.1. the processes within the organisation's management system;

15.2. the basic structural units within the organisation. In addition, it shall specify the names of, powers conferred, and functions assigned to, and subordination of all management members and other managerial bodies and job positions within the organisation that do not belong to the structural units;

15.3. the available resources and management of resources – information on material and human resources available to the applicant at the time of application, including the competences of employees that are required to be engaged in licensed activities.

CHAPTER VII REQUIREMENTS FOR THE APPLICANT'S MANAGEMENT SYSTEM DOCUMENTATION

16. The applicant's management system documentation defining the procedure and measures for ensuring nuclear safety, radiation protection and physical security for carriage of nuclear fuel cycle, nuclear and fissile materials, which is submitted in accordance with subparagraph 10.10 of the Licensing Regulations, shall specify:

16.1. the actions taken by the employees conducting the carriage in relation to ensuring nuclear safety and radiation protection and use of measures for that purpose;

16.2. the written guidelines stipulated in section 5.4.3 of ADR (in case of carriage by road) or section 5.4.3 of RID (in case of carriage by railway);

16.3. the requirements to be followed by the vehicle crew under normal conditions of carriage of nuclear fuel cycle, nuclear and fissile materials (in case of carriage by road), as stipulated in chapter 8.3 of ADR;

16.4. the information about the requirements applied by the applicant under the provisions of ADR (in case of carriage by road) or RID (in case of carriage by railway) in respect of marking and labelling of packages as hazardous, fastening of consignment of nuclear fuel cycle, nuclear and fissile materials, including the information about its location in the vehicle and its distance from the driver or vehicle operator, assessment of the surface contamination level of the package and/or container, segregation and isolation of the packages, carriage or return of empty containers, and description of the actions of employees necessary to implement the aforementioned requirements;

16.5. other actions of employees and measures taken by them to limit and manage the risks identified in the safety justification report;

16.6. the information on documents required and data to be presented therein in relation to carriage of the specific of consignment of nuclear fuel cycle, nuclear and fissile materials.

CHAPTER VIII REQUIREMENTS FOR NOTIFICATION OF UNUSUAL EVENTS AND PROCEDURE OF THEIR INVESTIGATION

17. The documents to be submitted by the applicant in accordance with subparagraph 10.6 of the Licensing Regulations and defining the procedure for notification of unusual events and their investigation to be followed by the licence holder referred to in subparagraph 6 of paragraph 1 of Article 22 of the Law on Nuclear Safety immediately after the occurrence of unusual event, shall specify the procedures for notification of unusual events and their investigation in line with the provisions of the legal act referred to in subparagraph 3.8 of the Requirements.

CHAPTER IX REQUIREMENTS FOR DESCRIPTION OF ACTIONS TO BE TAKEN IN RESPONSE TO OCCURENCE OF UNUSUAL EVENT

18. The description of actions to be taken in response to occurrence of unusual event to be submitted by the applicant in accordance with subparagraph 10.11 of the Licensing Regulations, shall define the procedures to be followed by the licence holder referred to in subparagraph 6 of paragraph 1 of Article 22 of the Law on Nuclear Safety in case of unusual event, including the contingencies stipulated in subsection 6.4.11.1(a) of ADR (in case of carriage by road) or the contingencies stipulated in subsection 6.4.11.1(a) of RID (in case of carriage by rail), during the carriage, loading or unloading of the nuclear fuel cycle, nuclear and fissile materials.

19. The description of actions to be taken in response to occurrence of unusual events shall specify the items of equipment for personal and general (collective) protection of employees taking live-saving actions, which are required on board of the vehicle in case of carriage by road under section 8.1.5 of ADR.

20. The description of actions to be taken in response to occurrence of unusual events shall specify the procedures for behaviour of employees in case of unusual event, i.e when other dangerous substances occur, if any, as a result of reaction caused by emissions from the contents of freight.

21. The description of actions to be taken in response to occurrence of unusual events or any section therein intended for the carriage of fissile materials shall contain information prepared in line with the provisions of subsections 6.4.11.1 and 6.4.11.13 of ADR (in case of carriage by road) and subsections 6.4.11.1 and 6.4.11.13 of RID (in case of carriage by rail).

CHAPTER X REQUIREMENTS FOR REPORT ON INDEPENDENT INVESTIGATION OF NUCLEAR SAFETY ANALYSIS AND JUSTIFICATION RESULTS

22. The report on independent investigation of nuclear safety analysis and justification results to be submitted by the applicant in accordance with subparagraph 10.7 of the Licensing Regulations, shall contain the results of independent investigation, which is conducted in line with the procedure stipulated in Articles 19 and 22 of the legal act referred to in subparagraph 3.6 of the Requirements.
