The Cabinet of Ministers Regulations "On Issuance Of Licenses And Permits For Activities With Radioactive Substances And Other Ionizing Radiation Sources"

Unofficial translation

Approved on June 20, 1996
Regulations No. 223
Issued in accordance with
Articles 6,7 and 9 of the law
"On Radiation and Nuclear Safety"

Chapter I General Provisions

- 1. The Present Regulations prescribe the procedure for granting licenses and permits (hereinafter licenses and permits) for the activities with radioactive substances and other ionizing radiation sources.
- 2. License or Permit is required for any activity with radioactive substances, the amount thereof exceeding that of referred to in Annex 1, and other ionizing radiation sources, except those, which according to the present Regulations are regarded as exceptions, license is required for entrepreneurial activity or permit for any other type of activity. The standard forms of licenses and permits are given in Annex 2.
- 3. Licenses and permits are issued by the following authorities:
 - 3.1 The State institutions which are subordinated or under supervision of Ministry of Welfare for activities with radioactive substances or other sources of ionizing radiation in medicine (Annex 2, form 2 and form 3).
 - 3.2. Export-Import Control Department of Latvian Development Agency licenses for export, import and transit of radioactive substances and nuclear materials accordingly to the Cabinet of Ministers Regulations No.179 of Export, Import and Transit of Strategic Goods, Products, Services and Technologies ("Latvijas Vestnesis", 1995, 104; 1996, 70).
 - 3.3. Radiation and Nuclear Safety Inspectorate of Environmental State Inspectorate (hereinafter Radiation and Nuclear Safety Inspectorate) for all other activities (Annex 2: form 2, form 3, form 6, form 7, form 8)
- 4. The issuing of the licenses are carried out by Licensing Commissions established by the competent authorities.
- 5. Licenses and Permits are issued against a fee as stipulated in Annex 3 of the present Regulations. The above fees shall be included into special budget accounts of Ministry of Welfare or Environmental Protection and Regional Development, or in account of the Export-Import Control Department of Latvian Development Agency.
- 6. Permits and Licenses may be issued for a long-term period and may refer to several radiation sources for a definite period of time. Permits and Licenses shall be renewable.
- 7. Permit for shipment of radioactive substances shall be granted only if the Consignee already holds the license or permit for certain activities with substances to be received.

Chapter II

Licenses and Permits for export, import or transit of radioactive substances and other sources of ionizing radiation

- 8. Radiation and Nuclear Safety Inspectorate is solely entitled to make decision upon granting the license or permit for export or import of radioactive substances and nuclear materials, Annex 2 (form 6, form 7 and form 8)., if said substances and materials are not enclosed in The List of Strategic Dual Use Goods, Products, Services and Technologies approved by Export Import Control Commission.
- 9. Export-Import Control Department of Latvian Development Agency, in accordance with Statutes of Strategic Export Import Control Committee, shall grant licenses for export, import and transit of radioactive substances and nuclear materials that are enclosed in The List of Strategic Dual Use Goods, Products, Services and Technologies, approved by Strategic Export Import Control Committee, providing that the respective entrepreneur holds the permit or license for certain activities with said materials.

Chapter III

The Rights and Obligations of Persons who conduct activities with radioactive substances

and other ionizing radiation sources

- 10. Any legal or natural person (hereinafter "person"), who wish to perform activities indicated in article 2 and 12. of this Regulations, shall report thereof to the respective Authorities and has to receive permit or license. Prior to reception of License or Permit, as well as re-registration of License or Permit, a state duty payments, according to legal acts, and payments set by Annex 3 have to be made.
- 11. License or Permit is not required for activities prescribed by Law 'On Radiation Safety and Nuclear Safety' (Latvijas Vestnesis, 1994, 147) article 6:
 - 11.1. use or disposal of radioactive substances where the activities involved do not exceed the values given in Figure column Α 2, Annex 11.2. use or disposal of radioactive substances, if the specific activity thereof on one mass unit exceed the values. specified in Figure Α Column 3, 11.3. operations with any cathode ray tube, which do not cause in normal operational conditions, at any point situated at a distance of 0.1m from the accessible surface of the apparatus, a dose Sv/h or the difference is less than 1 m potential 11.4. use of radioisotopic smoke detectors, using isotope Am²⁴¹, the activity for one detector not exceeding 50 kBg and the total amount of them - 100pcs.
- 12. Permits or Licenses are mandatory for:
 - 12.1. Construction, running, termination of any enterprise, using nuclear fuel;
 - 12.2. disposal of radioactive substances or processing of materials containing radioactive substances, if their activity exceed the values given in Figure A, Annex 1;
 - 12.3. addition of radioactive substances for manufacturing and marketing of medical or consumer goods;
 - 12.4. the administration of radioactive substances to persons or animals in medicine or veterinary (for purposes of diagnosis, treatment or research);
 - 12.5. use of elementary particles accelerators and x-ray equipment or radioactive sources for humans (for purposes of diagnosis, treatment or research);
 - 12.6. use of x-ray equipment or radioactive substance containing radiation sources for industrial radiography or manufacturing of goods,
 - 12.7. use of elementary particles accelerators, except for electron microscopes,
 - 12.8. the manufacture, import, export, transportation, sale, transfer, lease, acquisition, use, storage, reparation, installation or any other comparable activity with electrical devices, which cause in normal operational conditions, at any point situated at a distance of 0.1m from the accessible surface of the apparatus, a dose rate exceeding 1 m Sv/h or the potential difference is more than 5kV.
 - 12.9. activities with radioactive substances manufacturing, import, export, transportation, sale, transfer, lease, acquisition, possession, use, storage and processing if their activity exceed the values given in Figure A, Annex 1;
- 13. Any persons subjected to the jurisdiction of the Republic of Latvia may be granted a License or Permit in the order prescribed in Chapter 5. If the Person is not subjected to the jurisdiction of the Republic of Latvia, License or Permit can be obtained by the Person's authorized legal entity, subjected to the jurisdiction of the Republic of Latvia, and this legal entity shall bear full liability for activities conducted.
- 14. Person, who has been refused the license or permit, has the right to appeal the decision to the respective Ministry within 30 days; and the person may appeal ministry's decision according to the law.
- 15. Person, who wishes to conduct activities with radioactive substances and other ionizing radiation sources, stipulated in Article 11 of present Regulations, can obtain a Notice stating that license or permit is not required for said activities. The request for notice shall be submitted to the Radiation and Nuclear Safety Inspectorate; a standard form is given in Annex 2 (form 4). The Notice is valid for period of 6 month upon the date of issue. The standard form is given in Annex 2 (form 5).

- 16. The holder of the License or Permit shall keep all the documentation on activities with radioactive substances and other ionizing radiation sources and copies of documents, submitted for license application for 3 years after:
 - 16.1. disposal of radioactive substances at the disposal site for radioactive waste (except documents submitted together with radioactive waste),
 - 16.2. unusable non-isotopic ionizing radiation sources after the termination of their operation and prepared statement on it.
- 17. If activities with radioactive substances and other ionizing radiation sources are terminated by transferring permit for activities with radioactive substances and other ionizing radiation sources to the other person, who has obtained the respective license or permit and therefore bearing full liability for the aforesaid materials and radiation sources, then all technical documentation regarding to radioactive substances and other sources of ionizing radiation should also be transferred to aforesaid person.

Chapter IV

Conditions for issuance of Permits and Licenses

1. Duty for import of radioactive substances into the Republic Latvia

- 18. To obtain the license for import of radioactive substances, the license applicant shall make a payment for import of radioactive substances into the Republic of Latvia. The application of license shall be submitted together with document confirming payment of such duty. The amount of duty is set according to the activity and toxicity of radioactive substances, (Annex 4, Annex 5).
- 19. The Duty shall not be imposed on Import of such radioactive substances containing radionuclides that in the result of decay do not generate long-lived radioactive isotopes and half-life period of mother isotopes is less than 30 days.
- 20. When the license is granted for several separate import transactions, the documentary confirmation of made payments is required for import of each shipment of radioactive substances.
- 21. When required, the license applicant may receive guidance from Radiation and Nuclear Safety Inspectorate regarding payments, with respect to Annex 4 of present Regulations, concerning import of specific radioactive substances in The Republic of Latvia.
- 22. A payment of duty for import of radioactive substances shall be made into account of state enterprise "Radons". These finances shall be split and used accordingly:
 - 22.1. 20% to ensure environmental protection activities at the enterprise.
 - 22.2. 30% to invest to prepare disposal of radioactive waste.
 - 22.3. 10% for municipality of Baldone,
 - 22.4. 40% for State Enterprise "Radons" Guarantee Fund.
- 23. Guarantee Fund of the state enterprise "Radons" shall be used to cover radioactive waste pretreatment and disposal expenses, for waste generated by use of imported radioactive materials in to the Republic of Latvia, the rest of payments to ensure the management of such activities.
- 24. The calculation for payments for state enterprise "Radons" Guarantee Fund shall be based on the activity of the moment of import, but all the other payments shall be based on the activity of the estimated moment of disposal.
- 25. In case of Sealed radionuclide radiation sources, if total activity exceeds 10 TBq, a decreased customs duty rate 5 shall be applied (Annex 4, column 4 shall be referred to for calculations of payments). 26. When Purchase Contract stipulates the consignment of used radiation sources back to the country of origin, the Duty for import of radioactive substances in The Republic of Latvia shall not be imposed on Consignees of radioactive substances, except payment into Guarantee Fund.
- 27. When Recipient of radioactive substances confirms, that all radioactive substances are forwarded back to country of their origin, the state enterprise "Radons" will reimburse amount paid to Guarantee fund, according to the order set by the minister of environmental protection and regional development.
- 2. Physical Protection Requirements for Radioactive Substances and Other Ionizing Radiation Sources 28. To obtain a license or permit, the physical protection of materials or facilities shall be ensured, in accordance with the requirements set by the Ministry of Interior and Radiation and Nuclear Safety Inspectorate:
 - 28.1. Security alarm and intruder delay systems must ensure the probability of protection and security not less that 75%, except for ionizing radiation objects of State importance, the probability thereof shall be not less than 85%,

- 28.2. For analysis of physical protection systems the following software EASI and SAVI or ASSES shall be used, developed by USA National Sandia Laboratory.
- 29. The license application shall be submitted along with design of physical protection and the statement based on calculations made by Security police of the Ministry of Interior.

3. Requirements of Insurance Against the Third Party Liability

- 30. To obtain the license or permit, the applicant must observe the principle of the compulsory insurance of the employees, working with radioactive materials and other sources of ionizing radiation (hereinafter personnel) and of the civil liability for damages that can be caused to a third party, its property and the environment, as prescribed by Subarticle 4, Article 3 of Law 'On Radiation Safety and Nuclear Safety'. License application shall be submitted together with copies of relevant insurance polices as a proof of such insurance.
- 31. The minimum amount of insurance against third party is prescribed in Annex 6 of the present Regulations. The amount of insurance premium is estimated by the respective insurance company after potential risk assessment and evaluation of probability of damage carried out by qualified experts.

4. Technical Safety Requirements For Ionizing Radiation Facilities

32. To obtain the license or permit for activities with ionizing radiation equipment, applicant shall ensure use or storage of such equipment according to the technical requirements to aforesaid equipment. A copy of permit to operate or store the equipment, issued by authorized state technical supervision authority shall be submitted along with license application.

5. Qualification Requirements For Job Operators and Personnel

- 33. To obtain the license or permit, license application shall be submitted along with Statement, certifying the appropriate professional skills for personnel and Job operators, made by Relevant Qualification Certification Commission.
- 34. The minimum qualification requirements for job operator is to have background of higher technical or medical education and additional training in the field of radiation safety and nuclear safety and at least 3 years experience of job performer, taking into account also time period in which he or she received specific training in radiation safety.
- 35. Qualification Certification Commission shall have representative from the respective Authority, who shall test whether the educational background of the applicant in the field of radiation safety and nuclear safety corresponds to the professional job requirements. Professional vocational suitability shall be assessed by professional experts of the respective field union, and in the absence of such, by relevant lecturer from professional educational establishments.
- 36. In Enterprises (entrepreneurial companies) operate with simple sealed radiation sources, that do not require the direct on-site presence of Job Operator, and the radiation exposure dose rate under operating conditions in 1m distance is less than 1 m Sv/h, then as an exception, the Job Operator may be a person who has special secondary education besides 5 years experience of job performer and the additional training in the field of radiation safety and nuclear safety.
- 37. The job performers must have secondary education and additional training in the field of radiation safety and nuclear safety. Their professional skills and knowledge shall be examined the job operator, assisted by professional experts of the respective field union, in the absence of such, by the job operators from similar facilities.

Chapter V

The Procedure To Obtain a License and Permit

- 38. Person, who wishes to obtain a license or permit shall fill out an Application (Annex 2, form 1) and submit to the relevant licensing commission. Submitted documents shall be done in official state language. Exceptions are Technical Documentation for activities with radioactive substances and other ionizing radiation sources if the supplier is not subjected to the jurisdiction of the Republic of The Republic of Latvia. In that case the aforementioned documentation shall be drafted up in any of the UN official languages. When required by licensing commission, the applicant shall provide the translation thereof. 39. Along with submission of Application, the originals of following documents shall be presented and copies submitted to licensing commission:
 - 39.1. purchase contract or document confirming the act of presenting radioactive substances and other ionizing radiation sources into possession or tenure,
 - 39.2. certificate or technical documentation, providing information on radioactive substances and other ionizing radiation sources,
 - 39.3. legal entity registration certificate, natural person passport,

- 39.4. insurance policies for personnel and for of insurance against third party liability, prescribed in article 30 of the present Regulations,
- 39.5. design of physical protection system and Statement by Security Police of the Ministry of Interior prescribed in article 29 of the present Regulations,
- 39.6. list of personnel who perform work under conditions of ionizing radiation, along with information on medical examination and qualification prescribed in article 33 of the present Regulations,
- 39.7. Contract with state enterprise 'Radons' on disposal of radioactive waste, if such shall arise in the course of planned activities,
- 39.8. Plans and Specifications of the premises or sites where the activities with radioactive substances and other ionizing radiation sources are performed.
- 40. The applicant for export license shall submit written notification from the Consignee of radiation sources to licensing commission, stating the conformity to the provisions set in the country of destination. The copy of notification shall be submitted to Radiation and Nuclear Safety Inspectorate which informs the export license applicant about decision issuance or refusal of the export license.
- 41. If the license holder changes his/her legal address or the working place at the moment of receiving license or license in force, he/she shall notify on it to the licensing commission within 10 days, otherwise licensing commission has the right to refuse granting the license or annul the existing one.
- 42. Officials of the licensing commission shall guarantee the secrecy of submitted confidential information.
- 43. The licensing commission verifies the data indicated in the submitted documentation, and shall make decision and notify the applicant on the issuance/refusal of the license/permit within 20 days from the date of reception of the documents.
- 44. If a complex investigation is required prior to granting the license, as for lonizing radiation objects of state importance or for other specific cases, licensing commission shall inform the applicant on aforementioned investigation, and the final decision shall be made within 50 days from the date of reception of the documents.
- 45. When granting the export/import license to Consignee, Radiation and Nuclear Safety Inspectorate shall inform the Customs Department at the Ministry of Finance thereof.
- 46. If the applicant for license himself alone can only meet the radiation source storage safety requirements, he may be granted a Storage Permit. The License for performing of other activities with radiation sources may be granted to a person, that performs the operation of the said sources and bears full liability thereof.
- 47. The Person, who performs the installation and service to smoke detectors shall be granted a license only for such activities and a license for leasing or transfer into use thereof. In this case a License shall not be granted for selling.
- 48. The Person who holds radioisotopic smoke detectors, shall be granted a Storage Permit only.

Chapter VI

The Procedure for Licensing of the Ionizing Radiation Sources of State Significance

- 49. When a license application is submitted for ionizing radiation sources of State significance: to Radioactive waste disposal site of State Enterprise 'Radons' or to Nuclear Reactor of Nuclear Research Center of Latvia's Academy of Science, the Radiation and Nuclear Safety Inspectorate shall inform thereof general public via relevant municipalities, Newspaper 'Latvijas Vestnesis' and newspapers of Riga region.
- 50. Respective municipalities and population of Riga district may receive information regarding license application at the Radiation and Nuclear Safety Inspectorate, except for:
 - 50.1. information on physical protection and security systems,
 - 50.2. information protected by June 26, 1995 Cabinet Regulations No. 179 "On Export, Import and Transit of Strategic Goods, Products, Services and Technologies",
 - 50.3. other information set out in relevant legal acts.
- 51. The Radiation and Nuclear Safety Inspectorate shall make decision on issuance or refusal of the licenses within 30 days from the date when respective municipalities and inhabitants had been informed about license application for state significance sources of ionizing radiation in accordance to the Article 49

of the present Regulations. Written proven objections and proposals from municipalities and general

public should be taken into consideration when granting licenses.

52. License applicant together with Radiation and Nuclear Safety Inspectorate and persons that have submitted objections or proposals shall mutually come to an agreement upon issues of concern if the objections and proposals are timely submitted in writing. If agreement thereof is not reached within 20 days, the disputes shall be resolved in accordance with the Law. If any objections raise after the granting of licenses, the disputes shall be resolved by on-site inspection.

Chapter VII

The Termination and Renewal of Licenses and Permits

- 53. Export, import licenses are issued once for each consignment of goods, but other type of licenses or permits are valid for the period of 3 years.
- 54. Licenses and Permits shall be annulled, if in the course of review of person's activities:
 - 54.1. activities, not permitted by license or permit are disclosed in the course of inspection,
 - 54.2. serious violations of radiation safety and nuclear safety standards and regulations are disclosed in the course of inspection.
- 55. Licenses and Permits shall be renewed if there are significant alterations in person's activities and legal acts. In this case all the documentation referred to in Chapter V of present Regulations shall be submitted once again to the licensing committee. If the address of the license holder has changed, only the information of such changes shall be submitted.

Chapter VII

The Procedure for the Import and Export of Radioactive Substances and Other Ionizing Radiation Sources

- 56. Customs Services shall permit the export or import only if a respective License has been granted.
- 57. Person, who deals with export/import of radioactive substances and other ionizing radiation sources, or has prepared the consignment of the said substances and sources, shall submit to respective Competent Authorities the following information on consignments on a quarterly basis within 21 days (every three moths):
 - 57.1. name and address of the Consignee; 57.2. number of consignments, total activity for each isotope in each consignment:
 - 57.4. type of consignment: sealed sources or other.
- 58. Importer or Exporter of radioactive substances shall submit, within 10 days, the Control Certificate (Annex 2, form 9) to Radiation and Nuclear Safety Inspectorate to confirm that the goods have been transported across the state border of the Republic of Latvia.
- 59. If Customs control requires the involvement of experts of radiation safety and nuclear safety, the radioactive substances and other ionizing radiation sources, until the completion of relevant investigations, shall be stored only at the Ministry of Finance Customs Department warehouse special sections that have appropriate physical protection and ionizing radiation safety installments. Ministry of Finance Customs Department shall receive a permission from Radiation and Nuclear Safety Inspectorate on use of aforesaid warehouse for storage of the radioactive substances and other ionizing radiation sources under the same procedure as for other legal entities that foresee the storage of aforementioned materials and sources.

Chapter VIII Liability

60. For violation of the Regulations of the Cabinet of Ministers on activities with radioactive substances and other ionizing radiation sources one shall be held liable according to the laws and other legal acts. Prime minister

A.Skele

Minister of Environmental Protection and Regional Development

M. Gailis

Annex 1 to Cabinet regulations No. 223 of June 20, 1996:

"On Issuance of Licenses and permits for Practices With Radioactive Substances and Other lonizing Radiation Sources"

Annex 1 to Cabinet regulations No. 223

Figure A

Values of Activities and Specific Activities of Radionuclides, The Excession of which Requires a License or Permit

- 1. Figures A and B of this Annex comply with International Atomic Energy Agency International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. (Safety series, ISSN 0074-1892;115. Safety standards, Vienna: International Atomic Energy Agency, 1996).
- 2. Figure A enlists values of activity and of specific activity of main radioactive nuclides, the exceeding thereof require for obtaining a license or permit.
- 3. Radionuclides not included in Figure A shall be assigned by Radiation and Nuclear Safety Inspectorate of Environmental State Inspectorate.
- 4. Nuclides marked with "+" or " sec " in Figure A show the incorporated nuclides and its daughters in equilibrium relation as in Figure B. In this case the values indicated in Figure A are applicable to Mother nuclides, as well as to Daughter nuclides. This means that activities of mother nuclides and daughter nuclides shall not be summed, the value set for mother nuclide shall be applied.
- 5. The Mixture of Radionuclides shall sum the each nuclide concentration expressed in percents to total amount divided by the value laid down in Figure 1, The application to obtain license or permit is not necessary if the sum thereof is less than or equal to 100 percent.

Values of Activities and Specific Activities of Radionuclides, the Excession of Which Requires a License or Permit

Nuclide	Activity, Bq	Specific Activity, Bq/g		
³ H	10 ⁹	10°		
'Be	10'	10 ³		
¹⁴ C	10'	10 ⁴		
15O	10 ⁹	10 ²		
¹⁸ F	10 ⁶	10		
²² Na	10°	10		
²⁴ Na	10 ⁵	10		
31Si	10 ⁶	10 ³		
³² P	10°	10 ³		
³³ P	10 ⁸	10 ⁵		
³⁵ S	10 ⁸	105		
³⁶ Cl	10°	10 ⁴		
³⁸ Cl	105	10		
³⁷ Ar	10 ⁸	10°		
41Ar	109	10 ²		
⁴⁰ K	10°	10 ²		
42K	10 ⁶	10 ²		
43K	10°	10		
⁴⁵ Ca	10'	10 ⁴		
⁴ /Ca	106	10		
⁴⁶ Sc	10 ⁶	10		
⁴ /Sc	10 ⁶	10 ²		
⁴⁸ Sc	10°	10		
48V	10°	10		
51Cr	10'	10 ³		
51Mn	105	10		
⁵² Mn	10°	10		
^{52m} Mn	10°	10		
53Mn	109	10 ⁴		

⁵⁴ Mn	10 ⁶	10
36Mn	10	10
⁵² Fe	10°	10
²² Fe	106	10 ⁴
⁵⁹ Fe	10°	
55°Co	106	10
36C0	10	10
3/Co	10°	10 10 ²
⁵⁸ Co	106	
^{58m} Co	10'	10 10 ⁴
60Co	10'	
60mCo	106	10
61Co	10°	103
62mCo	1	10 ²
3	10 ⁵	10
⁵⁹ Ni		104
63Ni	10 ⁸	105
65Ni	10 ⁶	10
⁶⁴ Cu	106	10 ²
⁶⁵ Zn	10 ⁶	10
⁶⁹ Zn	106	10 ⁴
^{69m} Zn	10 ⁶	10 ²
⁷² Ga	105	10
⁷¹ Ge	108	104
⁷³ As	10'	103
⁷⁴ As	10 ⁶	10
⁷⁶ As	10°	10 ²
″As	10 ⁶	10 ³
⁷⁵ Se	10 ⁶	10 ²
⁸² Br	10 ⁶	10
^{∕4} Kr	109	10 ²
⁷⁶ Kr	10 ⁹	10 ²
′′Kr	109	10 ²
⁷⁹ Kr	109	103
⁸¹ Kr	10'	10 ⁴
^{83m} Kr	1012	10°
85Kr	1011	10 ³
85mKr	10 ¹⁰	10 ³
8/Kr	10 ⁹	10 ²
88Kr	10 ⁹	10 ²
⁸⁶ Rb	10 ³	10 ²
85Sr	10°	10²
^{85m} Sr	10'	10 ²
^{87m} Sr	10°	10²
⁸⁹ Sr	10°	10 ³
⁹⁰ Sr+	104	10 ²
⁹¹ Sr	105	10
⁹² Sr	10 ⁶	10
⁹⁰ Y	10 ⁵	10 ³
91 Y	10 ⁶	10 ³
^{91m} Y	10 ⁶	10 ²
⁹² Y	105	10 ²

⁹³ Y	10°	10 ²
93Zr+	10'	103
95Zr	10°	10
97Zr+	10°	10
93mNb	10'	10 ⁴
94Nb	106	10
95Nb	106	
97Nb	106	10
IND		10
98Nb	105	10
⁹⁰ Mo	10°	10
⁹³ Mo	10 ⁸	10 ³
⁹⁹ Mo	10 ⁶	10 ²
¹⁰¹ Mo	10 ⁶	10
⁹⁶ Tc	10 ⁶	10
^{96т} Тс	10′	10 ³
9/Tc	10 ⁸	103
^{97m} Tc	10'	10 ³
⁹⁹ Tc	10'	10 ⁴
^{99m} Tc	10'	10 ²
97Ru	10'	10 ²
¹⁰³ Ru	10 ⁶	10 ²
¹⁰⁵ Ru	10 ⁶	10
106Ru+	103	10 ²
^{103m} Ru	10 ⁸	10 ⁴
105Rh	10'	10 ²
¹⁰³ Pd	10 ⁸	10 ³
¹⁰⁹ Pd	10 ⁶	10 ³
¹⁰⁵ Ag	10 ⁶	10 ²
110mAg	10 ⁶	10
111Ag	10 ⁶	10 ³
109Cd	10 ⁶	10 ⁴
115Cd	10 ⁶	10 ²
115mCd	106	10 ³
Tr1In	10 ⁶	10 ²
113mIn	10 ⁶	10 ²
^{114m} In	10 ⁶	10 ²
^{115m} In	10 ⁶	10 ²
113Sn	10'	10 ³
¹²⁵ Sn	105	102
¹²² Sb	10 ⁴	10 ²
¹²⁴ Sb	106	10
¹²⁵ Sb	10 ⁶	10 ²
^{123m} Te	10'	102
^{125m} Te	10'	103
¹²⁷ Te	10 ⁶	103
^{12/m} Te	10'	10 ³
¹²⁹ Te	106	10 ²
^{129m} Te	106	103
¹³¹ Te	10 ⁵	10 ²
^{131m} Te	106	10
¹³² Te	10'	10 ²
·		· · · · · · · · · · · · · · · · · · ·

¹³³ Te	105	10
^{133m} Te	105	10
¹³⁴ Te	10°	10
¹²³ I	10'	10 ²
125 <u>I</u>	10 ⁶	10 ³
126 _Ĭ	10 ⁶	10 ²
129 _I	10 ⁵	10 ²
130 <u>I</u>	10°	10
131]	10 ⁶	10 ²
132 <u>T</u>	10°	10
133 <u>I</u>	10 ⁶	10
134 _I	10°	10
135	10 ⁶	10
131mXe	104	104
133Xe	10 ⁴	103
135Xe	1010	10 ³
129Cs		
US	105	10 ²
¹³¹ Cs	106	10 ³
¹³² Cs	10°	10
134mCs	10 ⁵	103
¹³⁴ Cs	10 ⁴	10
¹³⁵ Cs	10'	10 ⁴
¹³⁶ Cs	10 ³	10
¹³⁷ Cs+	10 ⁴	10
¹³⁸ Cs	10 ⁴	10
¹³¹ Ba	10 ⁶	102
¹⁴⁰ Ba+	10 ³	10
¹⁴⁰ La	10°	10
¹³⁹ Ce	10 ⁶	102
¹⁴¹ Ce	107	10 ²
¹³⁴ Ce	10 ⁶	10 ²
¹⁴⁴ Ce+	10 ⁵	10 ²
¹⁴² Pr	10 ⁵	10 ²
¹⁴³ Pr	10 ⁶	10 ⁴
147Nd	10 ⁶	10 ²
149Nd	10 ⁶	10 ²
¹⁴⁷ Pm	10'	10⁴
¹⁴⁹ Pm	10 ⁶	10 ³
¹⁵¹ Sm	10 ⁸	10 ⁴
¹⁵³ Sm	10 ⁶	10 ²
¹⁵² Eu	10 ⁶	10
^{152m} Eu	10 ⁶	102
154 E u	106	10
155Eu	10'	10 ²
153Gd	10'	10 ²
159Gd	106	103
160Tb	10 ⁶	10
¹⁶⁵ Dy	106	103
166Dy	10 ⁶	103
166Ho	10°	10 ³
169Er	10'	104
] 151	10	10-7

171Er	10 ⁶	10 ²
¹⁷⁰ Tm	10 ⁶	10 ³
171Tm	10 ⁸	104
¹⁷⁵ Yb	10'	10 ³
177Lu	10'	10 ³
¹⁸¹ Hf	10 ⁶	10
¹⁸² Ta	104	10
¹⁸¹ W	10'	10 ³
¹⁸⁵ W	10'	10 ⁴
¹⁸⁷ W	10 ⁶	10 ²
¹⁸⁶ Re	10 ⁶	10 ³
¹⁸⁸ Re	10°	10 ²
¹⁸⁵ Os	10 ⁶	10
¹⁹¹ Os	10'	10 ²
^{191m} Os	10'	10 ³
¹⁹³ Os	10 ⁶	10 ²
190Ir	10 ⁶	10
192Ir	10 ⁴	10
¹⁹⁴ Ir	10°	10 ²
191Pt	10 ⁶	10 ²
^{193m} Pt	10'	103
197Pt	106	10 ³
^{19/m} Pt	10°	10 ²
198Au	10 ⁶	10 ²
199Au	10°	10 ²
197Hg	10'	102
19/mHg	10 ⁶	10 ²
²⁰³ Hg	10°	10 ²
²⁰⁰ Tl	10 ⁶	10
²⁰¹ Tl	10 ⁶	10 ²
²⁰² Tl	106	10 ²
²⁰⁴ Tl	10	104
²⁰³ Pb		
²¹⁰ Pb+	10°	10 ²
212Pb+	10	10
²⁰⁶ Bi	10	10
²⁰⁷ Bi	10°	10
²¹⁰ Bi	10°	10
²¹² Bi+	10°	
²⁰³ Po	10°	10
²⁰⁵ Po	10°	10
P0		10
²⁰⁷ Po	10 ⁶	10
²¹⁰ Po	104	10
²¹¹ At	10'	10 ³
²²⁰ Rn+	10'	104
²²² Rn+	10 ⁸	10
²²³ Ra+	10°	10 ²
²²⁴ Ra+	105	10
²²⁵ Ra	10 ⁵	10 ²
²²⁶ Ra+	104	10
²²⁷ Ra	10 ⁶	10 ²

228Ra+	10°	10
228Ac	10°	10
	J 1	10
²²⁶ Th+	10'	103
²²⁷ Th	10 ⁴	10
²²⁸ Th+	10 ⁴	1
²²⁹ Th+	10 ³	1
²³⁰ Th	104	1
²³¹ Th	107	10 ³
²³² Th ^{sec}	10 ³	1
²³⁴ Th+	105	10 ³
²³⁰ Pa	106	10
²³¹ Pa	10 ³	1
²³³ Pa	10'	10 ²
²³⁰ U+	105	10
²³¹ U	10'	10 ²
²³² U+	103	1
233U	104	10
234U	104	
235U+	104	10
236U		10
1	10 ⁴	10
²³⁷ U	10 ⁶	10 ²
²³⁸ U+	10⁴	10
238U ^{sec}	103	1
²³⁹ U	10°	10 ²
²⁴⁰ U	10'	103
²⁴⁰ U+	10 ⁶	10
²³⁷ Np+	10 ³	1
239Np	10'	10 ²
²⁴⁰ Np	10 ⁶	10
²³⁴ Pu	10'	10 ²
²³⁵ Pu	10'	10 ²
²³⁶ Pu	10⁴	10
²³⁷ Pu	10'	10 ³
²³⁸ Pu	10 ⁴	1
²³⁹ Pu	10 ⁴	1
²⁴⁰ Pu	103	1
²⁴¹ Pu	105	102
242Pu	104	
Pu Pu 234Pu	10'	103
²⁴⁴ Pu		103
	104	1
²⁴¹ Am	104	1
²⁴² Am	10 ⁶	10 ³
^{242m} Am+	104	10
²³⁴ Am+	10 ³	1
²⁴² Cm	10°	10 ²
²⁴³ Cm	10⁴	1
²⁴⁴ Cm	104	10
²⁴⁵ Cm	10 ³	1
²⁴⁶ Cm	103	1
²⁴ /Cm	103	1
²⁴⁸ Cm	10 ³	1
<u>'</u>		

²⁴⁹ Bk	10 ⁶	103
²⁴⁶ Cf	10°	10 ³
²⁴⁸ Cf	10 ⁴	10
²⁴⁹ Cf	103	1
²⁵⁰ Cf	10 ⁴	10
²⁵¹ Cf	103	1
²⁵² Cf	104	10
²⁵³ Cf	105	10 ²
²⁵⁴ Cf	10 ³	1
²⁵³ Es	10°	10 ²
²⁵⁴ Es	10 ⁴	10
^{254m} Es	10 ⁶	10 ²
²⁵⁴ Fm	10'	10 ⁴
²⁵⁶ Fm	10 ⁶	10 ³

Figure B

List of Nuclides in Secular Equilibrium

Mother Nuclide	Daughter nuclide (Progenies)
90Sr+	⁹⁰ Y
93Zr+	^{93m} Nb
97Zr+	⁹ /Nb
106Ru+	106Rh
¹³⁷ Cs+	^{137m} Ba
¹³⁴ Ce+	¹³⁴ La
¹⁴⁴ Ce+	¹⁴⁴ Pr
140Ba+	¹⁴⁰ La
²¹² Bi+	²⁰⁸ Tl (0.36), ²¹² Po (0.64)
²¹⁰ Pb+	²¹⁰ Bi, ²¹⁰ Po
²¹² Pb+	²¹² Bi, ²⁰⁸ Tl (0.36), ²¹² Po (0.64)
²²⁰ Rn+	²¹⁶ Po
²²² Rn+	²¹⁸ Po, ²¹⁴ Pb, ²¹⁴ Bi, ²¹⁴ Po
²²³ Ra+	²¹⁹ Rn, ²¹⁵ Po, ²¹¹ Pb, ²¹¹ Bi, ²⁰⁷ Tl
²²⁴ Ra+	²²⁰ Rn, ²¹⁶ Po, ²¹² Pb, ²¹² Bi, ²⁰⁸ Tl (0.36), ²¹² Po (0.64)
226Ra+	²²² Rn, ²¹⁸ Po, ²¹⁴ Pb, ²¹⁴ Bi, ²¹⁴ Po, ²¹⁰ Pb, ²¹⁰ Bi, ²¹⁰ Po
²²⁸ Ra+	²²⁸ Ac
²²⁶ Th+	²²² Ra, ²¹⁸ Rn, ²¹⁴ Po
²²⁸ Th+	²²⁴ Ra, ²²⁰ Rn, ²¹⁶ Po, ²¹² Pb, ²¹² Bi, ²⁰⁸ Tl (0.36), ²¹² Po (0.64)
²²⁹ Th+	²²⁵ Ra, ²²⁵ Ac, ²²¹ Fr, ²¹⁷ At, ²¹³ Bi, ²¹³ Po, ²⁰⁹ Pb
²³² Th ^{sec}	²²⁸ Ra, ²²⁸ Ac, ²²⁸ Th, ²²⁴ Ra, ²²⁰ Rn, ²¹⁶ Po, ²¹² Pb, ²¹² Bi, ²⁰⁸ Tl (0.36), ²¹² Po (0.64)
²³⁴ Th+	^{234m} Pa
²³⁰ U+	²²⁶ Th, ²²² Ra, ²¹⁸ Rn, ²¹⁴ Po
²³² U+	²²⁸ Th, 224Ra, ²²⁰ Rn, ²¹⁶ Po, ²¹² Pb, ²¹² Bi, ²⁰⁸ Tl (0.36), ²¹² Po (0.64)
²³⁵ U+	²⁵¹ Th
²³⁸ U+	²³⁴ Th, ^{234m} Pa
238Usec	²³⁴ Th, ^{234m} Pa, ²³⁴ U, ²³⁰ Th, ²²⁶ Ra, ²²² Rn, ²¹⁸ Po, ²¹⁴ Pb, ²¹⁴ Bi, ²¹⁴ Po, ²¹⁰ Pb, ²¹⁰ Bi, ²¹⁰ Po
²⁴⁰ U+	^{240m} Np
²³⁷ Np+	²⁵³ Pa
^{242m} Am+	²⁴² Am
²⁴³ Am+	²³⁹ Np

Annex 2 to Cabinet regulations No. 223 of June 20, 1996:

"On Issuance of Licenses and permits for Practices With Radioactive Substances and Other Ionizing Radiation Sources"

Annex 2 to Cabinet regulations No. 223

Standard forms to be used for granting licenses and permits for activities with radioactive substances or other sources of ionizing radiation:

Application forms for licenses / permits - form 1;

The Notice application - form 4;

License for activities with radioactive substances - form 2; License for activities with sources of ionizing radiation - form 3;

		Form No
		(date of reception)
Name of	Competent authority, address, phone No	o. Fax No
_icense / Permit applicant's Control No	License / Permit	Application No
	Application	
Job Operator		
(Name, surname)	(position)	(phone No)
License / Permit applicant		
	(Name of legal or natural person, Regi Fax)	stration No, address, Pho
Job Operator's Substitute		
	(position)	(phone No)
(Name, surname)		
Activities, wh	ich the License / Permi	t is applied for
Activities, wh	ich the License / Permi	t is applied for
	ich the License / Permi	t is applied for

remarks on copies of submitted documents

Work Zone Design

List of Personnel

4

Personnel Insurance Policy

Training Certificate

Inventory of RS/IRS

5

Civil Liability Insurance Policy

Radiation control Plan

Contract with State Enterprise

RADONS

Physical Protection Verification

Certificate

License / Permit applicant	
Place for a seal	(Signature and deciphering thereof of Authorized Person, Position)
	(Date)

Instructions for filling out LICENCE / PERMIT APPLICATION

The form is filled out on a computer/typewriter.

- 1. The row "Applicant's Control No." shall be filled out by declaration applicant, but "Application No." by Competent Institution.
- 2. The row "Brief description of Activities" shall enlist the core activities referred to Chapter 4 of the present Regulations.
- 3. The row "Normative Document ..." shall enlist the approved by the enterprise METHODS, INSTRUCTIONS, REGULATIONS that stipulate the aforesaid activities,
- 4. The row "Radioactive substances/ionizing radiation sources" shall provide information on all radioactive substances, radioactivity thereof exceeding the values indicated in Annex 2. Is shall also provide information on all ionizing radiation sources whose ionizing radiation energy exceeds 5KeV, as well as provide information on cathode ray tubes intended for the display of visual images, which cause, at any point situated at a distance of 0.1m from the accessible surface of the apparatus, a dose rate exceeding 1 mSv×h⁻¹.
- 5. Remarks shall be made on copies of submitted documents by crossing the respective numbers.
- 6. Work Zone Design shall contain information on buildings, rooms, working places, security alarm systems, ventilation system, and sewage system.
- 7. Training Certificate shall include information radiation safety instructions/measures and system of personnel training, including data on professional qualification of personnel.
- 8. Radiation control plan shall provide information on measurements, volume thereof, controlling places and measuring equipment used, including individual dosimetry.
- 9. The list of personnel shall provide information on employees according to their occupation groups, educational background and medical examinations.
- 10. If a license is applied to for import, a copy of Purchase Contract is required, if the said contract stipulates the consignment of used radiation sources back to the country of origin. If this is verified, The specific Customs Duty shall not be imposed.
- 11. If a license is applied to for export, an Official Notice by the Competent Authority is required to verify that the Consignee of the respective country is authorized to perform activities with radioactive substances, the export thereof planned by Latvian Consignor.

	Name of Co	mpetent authority, add	ress, phone	Form No. 2
				(Date of Issue)
Registratio	on No	License No For activities with Value radioactive substances		Valid till
lerewith				
		(Name of legal or n		
granted t	he permission to under	take the following activities	es in the resp	ective Work Zones listed below:
#	Type of Activity	Radionuclide	e Amount, Bq Work 2	
substance the chang	s in respective Work Zo	ones prescribed by the Li	cense. Licen:	e activities with radioactive
substance the chang conditions Licensee	es in respective Work Zones (taken place or intensite be required.	ones prescribed by the Linded) in the respective Ins	cense. Licenstitution, shou	see shall report immediately abou uld the alterations of the License
substance the chang conditions Licensee	es in respective Work Zones (taken place or intended be required.	ones prescribed by the Li	cense. Licenstitution, shou	e activities with radioactive see shall report immediately abou
substance the chang conditions Licensee (Signature	es in respective Work Zones (taken place or intensite be required.	ones prescribed by the Linded) in the respective Ins	cense. Licenstitution, shou	e activities with radioactive see shall report immediately abouuld the alterations of the License
substance the chang conditions Licensee (Signature License Is	es in respective Work Zones (taken place or intensite be required. e and deciphering therefore suer	ones prescribed by the Linded) in the respective Ins	cense. Licenstitution, shou	e activities with radioactive see shall report immediately abouuld the alterations of the License

	Name of Co	mpetent authority, addres	es phone No	Form No. 3
		mpotont dutitority, address	ss, phone No.	rax NO
<u> </u>				(Date of Issue)
Registratio	n No	License For activities Ionizing Radia Sources	with	Valid till
Herewith				
		(Name of legal or nat		
is granted th	ne permission to under	take the following activities	in the respectiv	e Work Zones listed below:
#	Type of Activity	Radiation Source Type	ΙΛ/	
changes (ta conditions t Licensee	respective Work Zones aken place or intended be required.	rith verifies that he/she under prescribed by the License in the respective Institution in the respective Institution of of Authorized Person, Pos	. Licensee shall n, should the al	Remarks: vities with ionizing radiation report immediately about the terations of the License (Date)
License Iss				
(Signature a	and deciphering therec	of of Authorized Person, Pos	sition)	(Date)

Form No. 4

(Date of submission)	
(Registration No.)	

Official Notice Request

Herewith I officially request to provide me with an official notice whether license/permit for the following activities with radioactive substances and other ionizing radiation sources enlisted below is required.

radioactive substances and other ionizing radiation sources

#	Type of activity	ionizing radi	iation sources	radioacti	ve substance
		Source type	Dose Rate in 1m distance, mSv/h	Radionuclide	Radioactivity, MBq
	Work Place		nd other ionizing r		
Applican	ıt				
		(Name of le		son (Name, Surnar , address, Phone, I	ne), Registration No Fax)
Contacti	ng Person				
			(Name,	Surname, Phone)	

Signature _

(Official Notice Fillout Date)

Official Notic	e No.
----------------	-------

Radiation and Nuclear Safety Inspectorate herewith verifies that the analysis of submitted list of planned activities with radioactive substances and other ionizing radiation sources in the Request No by
(Name of legal or natural person (Name, Surname), address)

(Name of legal or natural person (Name, Surname), address)

has been made and Notifies that for the following activities with the said substances and sources the License/permit **is not** required.

(Cross out what is not applicable)

radioactive substances and other ionizing radiation sources

#	# Type of ionizing radiation sources		Type of activity	radioact	ive substance
		Source type	Dose Rate in 1m distance, mSv/h	Radionuclide	Radioactivity, MBq

Planned Work Place	
Authorized Person	

Planned Use of radioactive substances and other ionizing radiation sources

* Should The license / permit be required, the Application Declaration shall be submitted to Radiation and Nuclear Safety Inspectorate at the following address: Riga, Rupniecibas iela 25, LV-1877, Phone: 7320064, fax: 7243077; Opening Hours: 9⁰⁰ - 17⁰⁰.

For performing activities without a permit/license one shall be held liable in accordance with the legislative acts of the Republic of Latvia.

Radiation and Nuclear Safety Inspectorate

Riga, 25 Rupniecibas iela, LV- 1877, Phone: 7320064 Fax: 7243077

			(Date of Issue)	
		License			
Registration No		For Import of Radioactive		Valid till	
		Substances			
Herewith					
		(Name of legal or natu			
s granted t	he permission to import t	Name of legal or natura	al person,		
	Registratio	n No. (Identity Code), a	ddress, Phone, Fax		
#	The HS Code of Goods	Radionuclide	Amount (Bq)	Means of Transportation	

The undersigning licensee herewith verifies, that he/she undertakes the import activities of radioactive substances in respective amounts stipulated by the License. Licensee shall report immediately about the changes (taken place or intended), should the alterations of the License conditions be required. Licensee shall submit the report on actually received amount of radioactive substances within 21 days after each quarter of the calendar year.

Licensee	
(Signature and deciphering thereof of Authorized Person, Position)	(Date)
License Issuer	

By granting import license, Radiation and Nuclear Safety Inspectorate shall supervise the declared planned use of the said substances.

Radiation and Nuclear Safety Inspectorate
Riga, 25 Rupniecibas iela, LV- 1877, Phone: 7320064, Fax: 7243077

				(Date of Issue)
Registration l	No 	Permit For Import Radioacti Substanc	ve	Valid till
Herewith				
		(Name of legal or na	ural person, a	ddress)
s granted the	permission to import (Name of E	the following radioactive xporting Organization,	substances in	dicated below from:
#	The HS Code of Goods	Radionuclide	Amoun (Bq)	t Means of Transportation
				J
The undersign substances in changes (take shall submit ti	respective amounts : en place or intended),	should the alterations of	Licensee shall the License co	port activities of radioactive report immediately about the nditions be required. Licens o RNSI immediately after
The undersign substances in changes (take shall submit the reception of the	respective amounts : en place or intended), ne Delivery Verificatio	stipulated by the Permit. should the alterations of	Licensee shall the License co	report immediately about the nditions be required. Licens
The undersign substances in changes (take shall submit the reception of the cicensee	respective amounts and place or intended), ne Delivery Verificatione said substances.	stipulated by the Permit. should the alterations of	Licensee shall the License co e substances t	report immediately about the nditions be required. Licens
substances in changes (take shall submit the ceeption of the c	respective amounts and place or intended), ne Delivery Verificatione said substances.	stipulated by the Permit. should the alterations of n Certificate of radioactiv	Licensee shall the License co e substances t	report immediately about the nditions be required. Licens o RNSI immediately after

Radiation and Nuclear Safety Inspectorate
Riga, 25 Rupniecibas iela, LV- 1877, Phone: 7320064, Fax: 7243077

				(Date of Issue)
		License	•	
Registration	No	For Expor	t of	V4-12 1 (20)
		Radioactive		Valid till
			•	
		Substanc	es	
Herewith		<u> </u>		
		(Name of legal or na	tural person,	address)
is granted the	e permission to export	the following radioactive	substances in	dicated below from:
	(Name of E	xporting Organization,	address, Pho	one, Fax)
#	The HS Code of	Radionuclide	Amoui	nt Means of
	Goods	Radionucide	(Bq)	Transportation
emarks:		1		
substances ii changes (tak shall submit t	n respective amounts : en place or intended),	stipulated by the License should the alterations of	. Licensee sha the License co	oport activities of radioactive all report immediately about the conditions be required. License within 21 days after each
Licensee				
(Signature an	nd deciphering thereof	of Authorized Person, P	osition)	(Date)
icence Issue	ar .			
		<u>l</u> of Authorized Person, Po	noition)	(Date)
(Signature an				

Radiation and Nuclear Safety Inspectorate

Riga, 25 Rupniecibas iela, LV- 1877, Phone: 7320064, Fax: 7243077

Applicant's Control No	Delivery Verification Certificate	Licence Registration No
Date of Submission	of Radioactive Substances	Registration No

Importer	Exporter
(Name of legal or natural person, address)	(Name of Enterprise, Institution)
(address)	(address)
(Phone, Fax)	(Phone, Fax)
(Registration No.)	(Registration No.)

#	The HS Code of Goods	Radionuclide	Amount (Bq)	Means of Transportation
	<u> </u>			

Remarks:

By submitting Delivery Verification Certificate, the undersigning license holder herewith verifies, that the aforementioned radioactive substances are shipped/received in respective amounts stipulated by the License. Therefore License holder requests Radiation and Nuclear Safety Inspectorate to verify the transfer of liability for aforesaid radioactive substances to a Consignee with the moment of reception of application.

Applicant	
(Signature and deciphering thereof of Authorized Person, Position)	(Date)
By approving the present Certificate, Radiation and Nuclear Safety Inspectorate confirms respection was carried out on conveyance of radioactive substances to a Consignee.	that necessary
(Signature of certificate receiver / Signature of Authorized DNOLD	
(Signature of certificate receiver / Signature of Authorized RNSI Person, Position)	(Date)

Annex 3 to Cabinet regulations No. 223 of June 20, 1996:

"On Issuance of Licenses and permits for Practices With Radioactive Substances and Other Ionizing Radiation Sources"

Annex 3 to Cabinet regulations No. 223

The Amount of State Duty for License or Permit for Activities with Radioactive Substances and Other Ionizing Radiation Sources

Figure 1

Group of Objects Name Na	Radiation Sources	State Duty, Ls
Ionizing Radiation Sources of State Significance	Nuclear Reactor of Latvian Academy of Science Nuclear Research Center Radioactive waste disposal at State Enterprise 'Radons'	100
High Dose Rate Radiation Sources: activity ≥ 10 Tbq; dose rate ≥ 10 Sv	1) radiation facilities in science, 2) radiation facilities in medicine, 3) electron or other particle accelerators	80
Moderate Dose Rate Radiation Sources: activity 10 Gbq - 10 Tbq; dose rate 0.1 - 10 Sv	1) Fault detectors, 2) industrial nuclear gauges, 3) high dose rate x-ray equipment	60
Other radiation sources: activity <10 Gbq, except for smoke detectors with Pu ²³⁹ ; dose rate < 0.1 Sv	1) industrial nuclear gauges, 2) medical x-ray equipment, 3) use of radionuclides in medicine and science	40

Figure 2

Type of activities	Activity samples	State Duty, Ls
Export/import of radioactive substances and other ionizing radiation sources	Export/import transactions on a regular basis in Trading	50
	Import for the needs of an Institution	10
Storage of radiation sources	Radioactive sources storage site at State Enterprise 'Radons' Specialized Customs warehouse	50
Installation, maintenance and service of radiation facilities	 Installation and technical maintenance of Radioisotopic facilities, Installation and maintenance of Fire alarm security system using radioisotopic smoke detectors with Pu²³⁹ 	50
Use of smoke detectors	Use of Fire alarm security system using radioisotopic smoke detectors with Pu ²³⁹	10
Production / manufacturing of radioactive substances and other ionizing radiation sources	Producing with an aim to trade	50

Annex 4 to Cabinet regulations No. 223 of June 20, 1996:

"On Issuance of Licenses and permits for Practices With Radioactive Substances and Other Ionizing Radiation Sources"

Annex 4 to Cabinet regulations No. 223

Duty for import of radioactive substances in The Republic of Latvia

Radiotoxicity (Annex 5)	Radioactive substance in unsealed form, 1 Ls per 1 MBq	Sealed source of radiation, 1 Ls per 1 GBq			
		activity < 10TBq	activity > 10TBq		
Very high radiotoxicity	80	40	8		
High radiotoxicity	40	30	6		
Moderate radiotoxicity	20	20	4		
Low radiotoxicity	10	10	2		

Annex 5 to Cabinet regulations No. 223 of June 20, 1996:

"On Issuance of Licenses and permits for Practices With Radioactive Substances and Other Ionizing Radiation Sources"

Annex 5 to Cabinet regulations No. 223

Minimum Amount of Insurance against the Third Party Liability

Group of Objects	Description of potential radiological hazard	Radiation Sources	Minimum Insurance amount, Ls
1	2	3	4
Ionizing Radiation Sources of State Importance	1) Dangerous for human health and life, 2) potential environmental pollution, 3) real estate and movables endangered	Nuclear Reactor of Latvian Academy of Science Nuclear Research Center 2) Radioactive waste disposal at State Enterprise 'Radons'	1.000.000
High Dose Rate Radiation Sources: activity ≥ 10 Tbq; dose rate ≥ 10 Sv	1) Dangerous for human health and life, 2) small probability of environmental pollution and property hazard, 3) large expenditures for termination of accident consequences	1) radiation facilities in science, 2) radiation facilities in medicine, 3) electron accelerators	100.000
Moderate Dose Rate Radiation Sources: activity 10 Gbq - 10 Tbq; dose rate 0.1 - 10 Sv	1) Dangerous for human health, 2) small probability of environmental pollution and property hazard, 3) moderate expenditures for termination of accident consequences	1) Fault detectors 2) industrial nuclear gauges, 3) high dose rate x-ray equipment	10.000
Other radiation sources: activity <10 Gbq	small probability of environmental pollution and property hazard, 2) small expenditures for termination of accident	1) industrial nuclear gauges, 2) medical x-ray equipment, 3) use of radionuclides in medicine and science, 4) radioisotopic smoke	1.000

detectors

consequences

Annex 6 to Cabinet Regulations No. 223 of June 20, 1996: "On Issuance of Licenses and permits for Practices With Radioactive Substances and Other Ionizing Radiation Sources"

	c	Classificatio	n of Radio	onuclides a	ion Source: according to	their Rac	diotoxicity		
148	1785	7.710 =	Very 1		xicity (grou				
¹⁴⁸ Gd	²¹⁰ Pb	²¹⁰ Po	²²³ Ra	²²⁵ Ra	²²⁶ Ra	²²⁸ Ra	²²⁵ Ac	²²⁷ Ac	²²⁷ Th
²²⁸ Th	²²⁹ Th	²³⁰ Th	²³¹ Pa	²³⁰ U	²³² U	²³³ U	²³⁴ U	²³⁶ Np	²³⁷ Np
²³⁶ Pu	²³⁸ Pu	²³⁹ Pu	²⁴⁰ Pu	²⁴¹ Pu	²⁴² Pu	²⁴¹ Am	^{242m} Am	²⁴³ Am	²⁴⁰ Cm
²⁴² Cm	²⁴³ Cm	²⁴⁴ Cm	²⁴⁵ Cm	²⁴⁶ Cm	²⁴⁷ Cm	²⁴⁸ Cm	²⁴ /Bk	²⁴⁸ Cf	²⁴⁹ Cf
²⁵⁰ Cf	²⁵¹ Cf	²⁵² Cf	²⁵⁴ Cf	²⁵⁴ Es	²⁵ /Fm	²⁵⁸ Md			
10-					ity (group 2			100	
¹⁰ Be	²⁶ Al	³² Si	⁴⁴ Ti	⁶⁰ Fe	⁶⁰ Co	⁶⁸ Ge	⁹⁰ Sr	^y Y	⁹³ Zr
94Nb	¹⁰⁶ Ru	^{102m} Rh	¹⁰² Rh	^{108m} Ag	110mAg	¹⁰⁹ Cd	113mCd	115mCd	114mIn
¹²⁶ Sn	¹²⁴ I	¹²⁵ I	¹²⁶ I	131I	¹³⁴ Cs	¹³⁷ La	¹⁴⁴ Ce	¹⁴⁴ Pm	¹⁴⁶ Pm
¹⁴⁶ Sm	¹⁵¹ Sm	¹⁵⁰ Eu	¹⁵² Eu	¹⁵⁴ Eu	155Eu	Tb Tb	^{166т} Но	174 L u	17/mLu
¹⁷² Hf	^{178m} Hf	¹⁸² Hf	¹⁹⁴ Os	^{192m} Ir	^{194m} Ir	¹⁹⁴ Hg	²⁰² Pb	²¹² Pb	^{210m} Bi
²¹⁰ Bi	²¹¹ At	²²⁴ Ra	²²⁴ Ac	²²⁶ Ac	²²⁸ Ac	²³² Th	Th dab.	²²⁷ Pa	²²⁸ Pa
²³⁰ Pa	²³² Pa	²³⁶ U	²³⁶ Np	²³⁸ Np	²⁴⁴ Pu	²⁴² Am	²⁴¹ Cm	²⁴⁹ Bk	²⁴⁶ Cf
²⁵³ Cf	²⁵³ Es	^{254m} Es	²⁵² Fm	²⁵³ Fm	²⁵⁴ Fm	²⁵⁵ Fm	²⁵⁷ Md		
			Mode	rate radioto	xicity (group				,
⁴C	²² Na	²⁴ Na	²⁸ Mg	³² P	³³ P	³⁶ Cl	41Ar	⁴² K	⁴³ K
5Ca	⁴⁷ Ca	^{44m} Sc	⁴⁴ Sc	⁴⁶ Sc	⁴ /Sc	⁴⁸ Sc	48V	⁴⁸ Cr	⁵² Mn
⁴ Mn	⁵² Fe	⁵⁵ Fe	⁵⁹ Fe	⁵⁵ Co	36Co	5/Co	⁵⁸ Co	⁵⁶ Ni	⁵⁷ Ni
³Ni	⁶⁶ Ni	6′Cu	⁶² Zn	⁶⁵ Zn	^{69m} Zn	^{/2} Zn	⁶⁶ Ga	6/Ga	⁷² Ga
"Ge	"Ge	⁷¹ As	⁷² As	⁷³ As	⁷⁴ As	⁷⁶ As	″As	⁷³ Se	^{/5} Se
⁹ Se	⁷⁶ Br	82Br	⁷⁴ Kr	′′Kr	8/Kr	88Kr	⁸³ Rb	84Rb	86Rb
³ Sr	85Sr	89Sr	⁹¹ Sr	⁹² Sr	86Y	8/Y	88Y	90mY	100 90 Y
² Y	⁹³ Y	86Zr	88Zr	89Zr	95 Z r	9/Zr	90Nb	93mNb	95Nb
^{5m} Nb	⁹⁶ Nb	⁹⁰ Mo	⁹³ Mo	⁹⁹ Mo	⁹⁶ Tc	9/mTc	9/Ru	103Ru	105Ru
⁹ Rh	100Rh	^{101m} Rh	101Rh	¹⁰⁵ Rh	100Pd	¹⁰³ Pd	109Pd	105Ag	106m Ag
¹¹ Ag	¹¹² Ag	115Cd	11/Cd	¹¹¹ In	110Sn	113Sn	11/mSn	119mSn	121mSn
²¹ Sn	¹²³ Sn	125Sn	¹²⁰ Sb	122Sb	121Sb	¹²⁵ Sb	126Sb	127Sb	128Sb
²⁹ Sb	121Te	121mTe	123mTe	^{125m} Te	^{12/m} Te	129m Te	131Te	131mTe	132Te
^{.33m} Te	120 <u>T</u>	123	130 <u>T</u>	132	132m _T	133 _I	1357	¹²¹ Xe	123Xe
³⁸ Xe	¹³² Cs	136Cs	137Cs	128Ba	¹³¹ Ba	133mBa	133Ba	135mBa	140Ba
³² La	¹⁴⁰ La	I ⁴¹ La	134Ce	133 Ce	137m =				
⁴³ Pr	¹⁴⁵ Pr	138Nd	147Nd	¹⁴³ Pm	¹⁴⁵ Pm	135°Ce	141 Ce	¹⁴³ Ce ¹⁴⁸ Pm	¹⁴² Pr ¹⁴⁹ Pm
⁵¹ Pm	¹⁴⁵ Sm	153Sm	156Sm	145Eu	146Eu	147Eu	148Eu	149Eu	150Eu
^{52m} Eu	156Eu	157Eu	146Gd	147Gd	I ⁴⁹ Gd	¹⁵¹ Gd	¹⁵³ Gd	139Gd	¹⁴⁹ Tb
Tb	153Tb	154Tb	155Tb	156mTb	156Tb	157Tb	¹⁶¹ Tb	1290	10070
66Ho	169Er	171Er	172Er	167Tm	170Tm	171Tm		¹⁵⁹ Dy	¹⁶⁶ Dy
⁶⁹ Yb	1/5Yb	169Lu	1771Lu	,		1/4m ₇	¹⁷² Tm	173Tm	¹⁶⁶ Yb
^{/5} Hf	179mHf	¹⁸¹ Hf	184Hf	172Lu	173Lu	174mLu	177Lu	170Hf	¹⁷³ Hf
BBW HI	181Re	¹⁸² Re		176Ta	179Ta	¹⁸³ Ta	¹⁸⁴ Ta	185W	¹⁸⁷ W
Os	193Os		^{184m} Re	¹⁸⁴ Re	¹⁸⁶ Re	¹⁸⁸ Re	¹⁸⁹ Re	¹⁸² Os	¹⁸⁵ Os
PlPt	193ms.	185 Ir	¹⁸⁶ Ir	¹⁸⁸ Ir	¹⁸⁹ Ir	¹⁹⁰ Ir	¹⁹² Ir	¹⁹⁴ lr	¹⁸⁸ Pt
PT .	^{193m} Pt	195mPt	¹⁹⁷ Pt	²⁰⁰ Pt	¹⁹⁴ Au	195Au	¹⁹⁸⁶ Au	¹⁹⁸ Au	¹⁹⁹ Au
OOm Au	^{193m} Hg	^{195m} Hg	^{197m} Hg	¹⁹⁷ Hg	²⁰³ Hg	²⁰⁰ Tl	²⁰² Tl	²⁰⁴ Tl	²⁰⁰ Pb
⁰³ Pb	²¹¹ Pb	²¹⁴ Pb	²⁰⁵ Bi	²⁰⁶ Bi	²⁰⁷ Bi	²¹² Bi	²¹³ Bi	²¹⁴ Bi	²⁰⁷ At
²² Rn	²²² Fr	²²³ Fr	²²⁶ Th	²³¹ Th	²³⁴ Th	²³³ Pa	²³⁴ Pa	²³¹ U	²³ /U
™U	²³² Np	²³⁴ Np	²³⁵ Np	²³⁹ Np	²³⁴ Pu	²³ /Pu	²⁴⁵ Pu	²³⁸ Am	²⁴⁰ Am
^{44m} Am	²⁴⁴ Am	²³⁸ Cm	245 Rk	246Bk	250PL	244Cf	250 E a	251E-	

Low radiotoxicity (group 4)

²⁴⁶Bk

²⁵⁰Bk

²⁴⁴Cf

²⁵⁰Es

²⁵¹Es

²³⁸Cm

²⁴⁴Am

^{244m}Am

²⁴⁵Bk

³H	'Be	¹¹ C	¹⁸ F	³¹ Si	35S	³⁸ Cl	³⁹ Cl	³/Ar	³⁹ Ar
⁴⁰ K	⁴⁴ K	⁴⁵ K	⁴¹ Ca	⁴³ Sc	⁴⁹ Sc	⁴⁵ Ti	47V	⁴⁹ V	⁴⁹ Cr
⁵¹ Cr	⁵¹ Mn	^{52m} Mn	⁵³ Mn	⁵⁶ Mn	^{58т} Со	^{60m} Co	61Co	^{62m} Co	⁵⁹ Ni
⁶⁵ Ni	⁶⁰ Cu	61Cu	⁶⁴ Cu	⁶³ Zn	⁶⁹ Zn	^{71m} Zn	65Ga	⁶⁸ Ga	⁷⁰ Ga
⁷³ Ga	⁶⁶ Ge	⁶ /Ge	⁷¹ Ge	⁷⁵ Ge	∕8Ge	⁶⁹ As	^{∕0} As	⁷⁸ As	⁷⁰ Se
^{73m} Se	^{81m} Se	81Se	83Se	^{74m} Br	⁷⁴ Br	⁷⁵ Br	′′Br	80mBr	80Br
³³ Br	⁸⁴ Br	⁷⁶ Kr	^{/9} Kr	81Kr	^{83m} Kr	85mKr	85Kr	⁷⁹ Rb	81mRb
Rb	82mRb	8/Rb	88Rb	89Rb	⁸⁰ Sr	81Sr	85mSr	87mSr	86mY
YmY	⁹⁴ Y	⁹⁵ Y	88Nb	89Nb	9/Nb	⁹⁸ Nb	^{93m} Mo	¹⁰⁷ Mo	^{93m} Tc
⁹³ Тс	^{94т} Тс	⁹⁴ Tc	^{96т} Тс	9/Tc	⁹⁸ Tc	^{99m} Tc	⁹⁹ Tc	¹⁰¹ Tc	¹⁰⁴ Tc
⁷⁴ Ru	^{99m} Rh	^{103m} Rh	106mRh	107Rh	¹⁰¹ Pd	10/Pd	¹⁰² Ag	¹⁰³ Ag	^{104m} Ag
¹⁰⁴ Ag	106Ag	115Ag	¹⁰⁴ Cd	¹⁰⁷ Cd	¹¹³ Cd	117mCd	¹⁰⁹ In	110In	112 <u>In</u>
^{113m} In	^{115m} In	115In	116mIn	11/mIn	¹¹⁷ In	119mIn	111Sn	^{123m} Sn	127Sn
¹²⁸ Sn	¹¹⁵ Sb	116mSb	116Sb	¹¹⁷ Sb	118mSb	119Sb	¹²⁰ Sb	^{124m} Sb	126mSb
¹²⁸ Sb	¹³⁰ Sb	¹³¹ Sb	116Te	¹²³ Te	¹²⁷ Te	¹²⁹ Te	¹³³ Te	¹³⁴ Te	120m _I
¹²¹ I	¹²⁸ I	¹²⁹ I	¹³⁴ I	¹²⁰ Xe	¹²² Xe	¹²⁵ Xe	¹²⁷ Xe	^{129m} Xe	^{131m} Xe
^{33m} Xe	¹³³ Xe	^{1,35m} Xe	¹³⁵ Xe	¹²⁵ Cs	121'Cs	¹²⁹ Cs	¹³⁰ Cs	¹³¹ Cs	134mCs
^{135m} Cs	¹³⁵ Cs	138Cs	¹²⁶ Ba	131mBa	¹³⁹ Ba	¹⁴¹ Ba	¹⁴² Ba	¹³¹ La	135La
¹³⁸ La	¹⁴² La	¹⁴³ La	¹³⁷ Ce	¹³⁶ Pr	137Pr	^{138m} Pr	¹³⁹ Pr	^{142m} Pr	¹⁴⁴ Pr
⁴⁷ Pr	¹³⁶ Nd	139mNd	139Nd	141Nd	¹⁴⁹ Nd	¹⁵¹ Nd	¹⁴¹ Pm	¹⁵⁰ Pm	141mSm
¹⁴¹ Sm	¹⁴² Sm	14/Sm	¹⁵² Sm	158Eu	¹⁴⁵ Gd	¹⁵² Gd	14/Tb	¹⁵⁰ Tb	156mTb
³³ Dy	¹⁵⁷ Dy	¹⁶⁵ Dy	¹⁵⁵ Ho	¹⁵⁷ Ho	¹⁵⁹ Ho	¹⁶¹ Ho	^{162m} Ho	¹⁶² Ho	^{164m} Ho
⁶⁴ Ho	¹⁶⁷ Ho	¹⁶¹ Er	¹⁶⁵ Er	¹⁶² Tm	¹⁶⁶ Tm	175Tm	¹⁶² Yb	¹⁶⁷ Yb	17/Yb
⁷⁸ Yb	176mLu	176Lu	178mLu	178Lu	¹⁷⁹ Lu	17/mHf	180mHf	^{182m} Hf	¹⁸³ Hf
^{/2} Ta	¹⁷³ Ta	174Ta	175Ta	177Ta	178Ta	^{180m} Ta	¹⁸⁰ Ta	^{182m} Ta	¹⁸⁵ Ta
Та	176W	177W	178W	179W	¹⁸¹ W	177Re	178Re	¹⁸² Re	186mRe
8/Re	^{188m} Re	¹⁸⁰ Os	¹⁸¹ Os	^{189m} Os	^{191m} Os	¹⁸² Ir	¹⁸⁴ Ir	¹⁸⁷ Ir	190mIr
^{95m} Ir	¹⁹⁵ Ir	¹⁸⁶ Pt	189Pt	¹⁹³ Pt	^{197m} Pt	¹⁹⁹ Pt	¹⁹³ Au	²⁰⁰ Au	²⁰¹ Au
⁹³ Hg	¹⁹⁵ Hg	199mHg	^{194m} Tl	¹⁹⁴ Tl	¹⁹⁵ Tl	¹⁹⁷ Tl	198mTl	¹⁹⁸ Tl	199Tl
⁰¹ Tl	^{195m} Pb	¹⁹⁸ Pb	¹⁹⁹ Pb	²⁰¹ Pb	^{202m} Pb	²⁰⁵ Pb	²⁰⁹ Pb	²⁰⁰ Bi	²⁰¹ Bi
⁰² Bi	²⁰³ Po	²⁰⁵ Po	²⁰⁷ Po	²²⁰ Rn	22/Ra	²³⁵ U	²³⁸ U	²³⁹ U	U dab.
J depl.	²³³ Np	²⁴⁰ Np	²³⁵ Pu	²⁴³ Pu	²³⁷ Am	²³⁹ Am	²⁴⁵ Am	^{246m} Am	246Am
⁴⁹ Cm		1		1		-	<u> </u>		