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Republic of Latvia

Cabinet

Regulation No 152

Adopted 8 April 2003

## **Requirements for Preparedness for Radiological Emergency and Actions in the Event of Such Emergency**

*Issued pursuant to  
Section 9, Paragraph four, Clause 2  
of the Law On Radiation Safety and Nuclear Safety*

### **1. General Provisions**

1. These Regulations determine the requirements for preparedness for a radiological emergency and actions in the event of such emergency.

2. These Regulations apply to the following possible types of radiological emergency:

2.1. nuclear accident – an event related to a nuclear reactor or of another nuclear-fuel-cycle facility, transport or storage of nuclear fuel which results in the exceeding of the ionising radiation dose limit specified by regulatory enactments as regards employees or residents (hereinafter – ionising radiation dose limits) and damage or damage hazard regardless of protection measures for reduction of damage (hereinafter – protection measures);

2.2. emergency – an event related to the production, usage, storage, disposal or transport of ionising radiation sources intended for agriculture, manufacturing, medicine, scientific research or generation of energy in space objects, which results in the exceeding of the ionising radiation dose limit and damage or hazard regardless of protection measures, or the level of ionising radiation exceeds the rates specified in Paragraph 3 of these Regulations;

2.3. accident – release or spread of radioactive substances that causes radioactive pollution in an object, exceeding the permissible amount of radionuclides specified by regulatory enactments that may be spread into the environment within one year (hereinafter – significant release or spread of radioactive substances), but not exceeding the rates specified in Paragraph 3 of these Regulations;

2.4. incident – an event related to the release or spread of radioactive substances that causes radioactive pollution in an object, but does not create a significant release or spread of radioactive substances.

3. In the event of an emergency, the following is being exceeded:

3.1. specific radioactivity in water intended for consumption:

3.1.1. for tritium – 1 kBq/l;

3.1.2. for isotope <sup>90</sup>Sr – 0,6 Bq/l;

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- 3.1.3. for isotope  $^{137}\text{Cs}$  – 1 Bq/l;
- 3.2. specific radioactivity of water in rivers and lakes:
  - 3.2.1. total beta radioactivity recalculated for isotope  $^{90}\text{Sr}$  – 6 Bq/l; and
  - 3.2.2. for isotope  $^{137}\text{Cs}$  – 10 Bq/l;
- 3.3. the level of radioactive substances in the air:
  - 3.3.1. for isotope  $^{131}\text{I}$  – 55 Bq/m<sup>3</sup>;
  - 3.3.2. for isotope  $^{90}\text{I}$  – 0.05 Bq/m<sup>3</sup>; and
  - 3.3.3. for isotope  $^{137}\text{Cs}$  – 0.3 Bq/m<sup>3</sup>;
- 3.4. specific radioactivity in food products (larger than the permissible amount of radionuclides specified by regulatory enactments).

4. Radiological emergency damage is:

- 4.1. damage to human health (also death of a human being);
- 4.2. damage to or loss of property;
- 4.3. economic losses caused by damage to human health (also death of a human being), damage to or loss of property;
- 4.4. costs of environmental recovery if the state of the environment has substantially deteriorated;
- 4.5. loss of the income acquired from the utilisation of the environment for economic interests, which has occurred due to the substantial environment deterioration ; or
- 4.6. costs of protection measures and the losses or damages caused thereby.

5. An operator and institutions responsible for protection measures shall develop a plan of civil protection measures co-ordinated with the National Civil Protection Plan for preparedness to radiological emergencies and actions in the event of radiological emergency (hereinafter – plan of action) in an object which might cause radiological emergency damage (hereinafter – object). Protection measures regarding residents who may be under threat of radiological emergency shall be provided for in the plan of action.

6. An object shall be:

- 6.1. an installation, a room or the complex thereof in the area controlled by an operator where the activities with ionising radiation sources the total radioactivity of which exceeds the substantial amount of radioactive substances specified in Annex 1 of these Regulations are performed; or
- 6.2. a vehicle, by which ionising radiation sources the total radioactivity of which exceeds the substantial amount of radioactive substances specified in Annex 1 of these Regulations are transported.

7. The plan of action shall provide for protection measures in order to:

- 7.1. reduce the possibility of the occurrence of a radiological emergency and emergency consequences ;
- 7.2. eliminate or reduce immediate radiological emergency damage to a minimum (damage caused by an intensive exposure to radiation or the exposure to radiation that has not been longer than five days if the ionising radiation dose to the whole body has been 500 mSv and more per one instance of radiation); and
- 7.3. reduce the possibility of post- radiological emergency damage occurring (the possibility of the occurrence of the damage is proportional to the received dose of ionising radiation, the severity of damage does not depend on the amount of the received ionising radiation dose).

8. An operator shall co-ordinate his or her plan of action with:
- 8.1. the Radiation Safety Centre (hereinafter – Centre);
  - 8.2. the local government if the total radioactivity of radioactive substances in the area controlled by the operator complies with or is larger than the rates specified in Annex 1 of these Regulations;
  - 8.3. the State Fire-Fighting and Rescue Service (hereinafter – Rescue Service) if the consequences of radiological emergency might affect residents and the environment outside the area controlled by the operator.
9. Republic city and district structural units of the Rescue Service in co-operation with local governments shall analyse the hazard of the possible radiological emergency and develop a plan of civil protection measures in the relevant administrative territory.

## **2. Provision of Information**

### **2.1. Prior Information of Residents**

10. The Rescue Service in co-operation with the Centre shall once in every three years inform residents who might be under threat of radiological emergency regarding the health protection measures and actions in the event of radiological emergency by using mass media. The following issues shall be included in the information:
- 10.1. ionising radiation and the effect thereof on residents and the environment;
  - 10.2. types of radiological emergencies, possible affect of the emergency aftermath on residents and the environment;
  - 10.3. protection measures and methods for the implementation thereof;
  - 10.4. actions of residents in the event of a radiological emergency (also iodine prophylactics), as well as possibilities for the receipt and purchase of iodine preparations;
  - 10.5. competent authorities and commercial companies that are able to provide information regarding radiation safety.
11. The Rescue Service in co-operation with the Centre shall specify, supplement and distribute the information referred to in Paragraph 10 of these Regulations if there are substantial changes in the content of the previously provided information.
12. A work supervisor authorised by an operator for the work with ionising radiation sources (hereinafter – work supervisor) shall inform the relevant State and local government institutions and residents who might be under threat of radiological emergency regarding the possibility of radiological emergency and the necessary protection measures.

### **2.2. Warning of Residents in the Event of a Radiological Emergency**

13. The Rescue Service shall notify and warn residents in the event of a radiological emergency by using the mass media and the notification and alarm system.
14. Upon the recommendation of the Centre, the Rescue Service shall immediately provide the following information to the residents who have suffered in the radiological emergency:
- 14.1. the type, cause (if possible), scale and possible expansion of the radiological emergency that has taken place;

14.2. protection measures recommended to residents (depending on the type of radiological emergency):

14.2.1. restrictions regarding the use of definite food products if there are suspicions regarding the pollution thereof with radioactive substances;

14.2.2. observance of hygiene rules, as well as decontamination – removal of radioactive substances in order to reduce radioactive pollution on surfaces of all types, in bodies of residents, in materials, environmental objects, food products, animal fodder and drinking water;

14.2.3. provision with food products and animal fodder not polluted with radiation in accordance with the relevant norms;

14.2.4. staying inside and in civil protection protective structures (hereinafter – protective structures);

14.2.5. evacuation;

14.2.6. dispensation and use or purchase of protective substances;

14.2.7. establishment of stations for the provision of veterinary assistance to livestock;

14.2.8. restrictions of livestock pasture and procedures for movement;

14.3. additional protective measures for specific resident groups (if required).

15. The Rescue Service shall provide the following information to residents who may be under threat of radiological emergency:

15.1. instructions to keep radiobroadcast receivers and television sets switched on;

15.2. general instructions regarding the actions in the event of radiological emergency;

and

15.3. additional recommendations.

16. After the receipt of information regarding the possible radiological emergency the Rescue Service shall supplement the information referred to in Paragraph 15 of these Regulations with the previously prepared information regarding the possible radiological emergency impact on residents and the environment, as well as regarding general radiation safety measures.

### **2.3. Preliminary Provision of Information to Institutions and Commercial Companies Involved in the Performance of Protection Measures**

17. Taking into account the character and scale of the possible radiological emergency, each year the Rescue Service in co-operation with the Centre shall provide information regarding the possible impact of ionising radiation on residents and the environment and radiation protection measures to managers and employees of such institutions and commercial companies that may be involved in the organisation and performance of protection measures in the event of a radiological emergency.

18. If a radiological emergency has occurred, information regarding the protection measures shall be supplemented accordingly, taking into account the specific conditions.

### **2.4. International Notification**

19. If a nuclear accident or an emergency has occurred and a decision to perform wide protection measures which involve more than 100 residents (hereinafter – wide protection measures) has been taken, the Centre shall immediately provide information regarding the

protection measures and justification for the necessity thereof to the International Atomic Energy Agency and the European Commission, as well as the other countries which are affected or may be affected by the consequences of a nuclear accident or emergency which has taken place in the territory of Latvia and the possible protection measures (hereinafter – involved countries).

20. If a nuclear accident or an emergency has occurred and a decision regarding the performance of protection measures has been taken or prepared on the basis of the information provided by an operator, the International Atomic Energy Agency, the European Commission or any other country regarding the possible nuclear accident or emergency which may have an impact on Latvia, the Centre shall provide the information regarding the possible performance of wide protection measures to the International Atomic Energy Agency, the European Commission and the involved countries.

21. The Centre shall provide the following information to the International Atomic Energy Agency, the European Commission and the involved countries:

- 21.1. the nature, time and exact location of the nuclear accident or emergency;
- 21.2. the object or activity which has caused the nuclear accident or emergency;
- 21.3. the possible or determined cause of the nuclear accident or emergency and the anticipated development that is related to the release or spread of radioactive substances and the possible spread of radioactive pollution outside of Latvia;
- 21.4. general description of the release or spread of radioactive substances, the possible physical and chemical form thereof, the amount, composition and effective height of radioactive spread of radioactive substances which have reached the environment; and
- 21.5. the present and foreseeable meteorological and hydrological conditions which impact on the spreading of the radioactive pollution.

22. After obtaining the relevant data in addition to the information specified in Paragraph 21 of these Regulations the Centre shall provide the International Atomic Energy Agency, the European Commission and involved countries with the following information:

- 22.1. results of the environment radiation monitoring;
- 22.2. measurement results regarding radioactivity in food products, animal fodder and drinking water;
- 22.3. the performed or planned protection measures;
- 22.4. the performed or planned measures for the informing of residents;
- 22.5. a forecast regarding the nature of the release or spread of the radioactive substance for a specified period of time.

23. During the liquidation of the radiological emergency the Centre shall update and supplement the information specified in Paragraphs 21 and 22 of these Regulations with data regarding the expansion of the nuclear accident or emergency, the anticipated and actual termination thereof. The referred to data shall be forwarded at regular intervals so that the relevant organisations and other countries can perform the necessary protection measures. During the time period of the liquidation of the consequences of the nuclear accident or emergency the referred to information shall be provided once a month or less often upon agreement with the recipients of the information.

### 3. Planning of Protection Measures

24. The possible protection measures of the following types to be initiated:

24.1. the emergency protection measures that shall be performed immediately after the receipt of information regarding the radiological emergency that has occurred or the inevitable hazard thereof in order to avert or reduce the immediate damage from the radiological emergency;

24.2. long-term protection measures which shall be performed after the radiological emergency in order to reduce post-radiological emergency damage .

25. Protection measures shall be planned for the following areas:

25.1. the object;

25.2. the area of emergency protection measures – the territory around the object, where it is planned to perform the emergency protection measures;

25.3. long-term protection measures for the area – territory around the object (also the area of emergency protection measures) wherein early effective protection measures are ensured in order to reduce ionising radiation doses from the radioactive deposits, radiation-polluted food products and drinking water.

26. The operator shall evaluate the largest possible radiological emergency damage in the object and, taking into account natural boundaries (for example, breaks in the relief of the land, bodies of water), the Centre shall determine the boundaries of the protection measure areas after co-ordination with the Rescue Service.

27. In planning protection measures, the operator, the local government, in the territory of which the relevant object is located, and the Rescue Service shall:

27.1. evaluate the necessary protection measure possibilities, efficiency and costs of the relevant protection measure, including operational monitoring;

27.2. plan the protection measures so that:

27.2.1. the radiological emergency damage would be as small as possible;

27.2.2. the damage to the environment and property caused by protection measures, as well as the burden for the residents who have suffered in radiological emergency would be as small as possible; and

27.2.3. the total dose of ionising radiation received by the residents who have suffered in the radiological emergency and workers performing protection measures would be minimal in comparison to the total dose of ionising radiation received by the residents who have suffered in radiological emergency if the relevant protection measures are not performed;

27.3. evaluate the type, scale and duration of the protection measures corresponding to the possible damage.

28. An operator, and the local government, in the territory of which the relevant object is located, and the Rescue Service shall plan the following protection measures in the event of a radiological emergency:

28.1. iodine prophylactics;

28.2. staying indoors and in protective structures;

28.3. evacuation;

28.4. decontamination;

28.5. rescue of residents who have suffered in the radiological emergency and the provision of emergency medical assistance;

- 28.6. control of food products and drinking water and restrictions for the use of radiation-polluted food products and drinking water;
- 28.7. protection of livestock from radioactive pollution;
- 28.8. demarcating of the radiological emergency area or area polluted by the radiation created thereby as a restricted area in order to reduce the spreading of radioactive substances and to control the movement of residents to or from the radiation-polluted territory;
- 28.9. protection of the local water supply and drainage systems;
- 28.10. prevention and extinguishing of fires;
- 28.11. control of the irradiation of residents who have suffered in a radiological emergency;
- 28.12. registration and control of radioactive pollution of the environment;
- 28.13. re-packaging of radioactive materials from packages damaged in a vehicle during a radiological emergency;
- 28.14. packaging and conveying of radioactive waste to an undertaking (commercial company) dealing with the disposal or management of radioactive waste;
- 28.15. registration of the irradiation of workers involved in the liquidation of the consequences of the radiological emergency and radioactive pollution and other protection measures; and
- 28.16. organisation of protection measures for residents who have suffered in a radiological emergency.

29. If after the performance of the protection measures referred to in Paragraph 28 of these Regulations radioactive pollution is still possible in the radiological emergency area, an operator, the local government in the territory of which the relevant object is located and the Rescue Service shall plan the following supplementary measures:

- 29.1. decontamination of the territory;
- 29.2. control of radioactive pollution in food products, animal fodder and environmental objects;
- 29.3. long-term monitoring and health rehabilitation of the workers who have suffered in the radiological emergency and who have been involved in the elimination of the consequences of the radiological emergency.

30. The ionising radiation doses or dose rates specified in these Regulations shall be used for residents as recommendations as regards pregnant women and children, but protection measures should be planned and performed so that the doses received by pregnant women and children would be as small as possible.

## **4. Protection Measures in the Event of Radiological Emergency**

### **4.1. Iodine Prophylactics**

31. Iodine prophylactics shall be performed shortly before the possible release or spread of radioactive substances from the object into the environment or immediately thereafter, in order to reduce the harmful effect of ionising radiation on the health of those residents who may be under the threat of a radiological emergency and on the health of the residents who have suffered in a radiological emergency. Iodine preparations (potassium iodide tablets, 5 % potassium iodide solution) shall be used, taking into account recommendation of the Centre, upon the instruction of the Rescue Service in accordance with the attached instruction regarding the use of iodine preparations.

32. Iodine preparations shall be distributed to the residents who live in the area of emergency protection measures (also around the object where the release or spread of radioactive iodine is possible in the event of radiological emergency for individual storage and, when required, for use, but iodine preparations provided for residents of an area of long-term protection measures shall be stored in State material stocks. The Rescue Service shall control the renewal and supplementation of the stocks.

33. Iodine prophylactics shall be performed:

33.1. taking into account the recommendation of the Centre, according to a decision of the Rescue Service, if:

33.1.1. a notification regarding the actual or possible radiological emergency due to which the possible radioactive iodine concentration in the air in the territory of the Republic of Latvia during the following six hours may create in a thyroid gland of an adult resident an ionising radiation dose that is larger than 500 mSv during the following ten days, and there is information that the substantial reduction of release or spread of radioactive substances from the nuclear installations involved in the accident cannot be achieved;

33.1.2. a cloud of radioactive dust (spray) is detected in a specific part of the territory of the Republic of Latvia the ionising radiation dose of which is larger than:

33.1.2.1. 0,1 mSv/h if the release or spread of radioactive substances is not being reduced;

33.1.2.2. 1,0 mSv/h if the release or spread of radioactive substances is being reduced (absorption of iodine and caesium radionuclides takes place in radiological emergency containment systems in the object);

33.2. if a notification regarding a possible radiological emergency occurring within the next three hours has been received and the local or district government located in the area of emergency protection measures (hereinafter – local government) has issued a relevant order.

34. Iodine prophylactics shall be carried out for no more than seven days.

#### **4.2. Staying Indoors and in Blast Shelters**

35. Taking into account the recommendation of the Centre, the Rescue Service shall take a decision regarding residents who have suffered in a radiological emergency staying indoors or in blast shelters if such staying indoors or in blast shelters for 6 – 48 hours reduces the dose of the ionising radiation created by external and internal irradiation to:

35.1. 3 mSv within the next six hours;

35.2. 10 mSv within the next 48 hours.

36. The protection measure – residence in premises and protective structures - shall not be applied for more than 48 hours.

#### **4.3. Evacuation**

37. Evacuation shall be performed by moving residents who have suffered in radiological emergency from their permanent place of residence, as well as from work and rest areas in order to prevent or reduce their irradiation and prevent radiological emergency damage .



38. Taking into account the recommendation of the Centre, the decision regarding evacuation of residents who have suffered in radiological emergency shall be taken by:

38.1. the Emergency Situation State Operational Commission (hereinafter – State Operational Commission);

38.2. the relevant territorial emergency situation operational commission;

38.3. the Rescue Service or the relevant local government if it is impossible to convene members of the State Operational Commission or territorial emergency situation operational commission.

39. The operator shall take the decision regarding the evacuation from the object of workers not involved in the elimination of the radiological emergency and the consequences thereof that has occurred in the object .

40. The evacuation shall be performed in the following cases:

40.1. if the possible ionising radiation dose is:

40.1.1. more than 10 mSv in the next 24 hours; or

40.1.2. more than 50 mSv in the next seven days; and

40.2. if the possible ionising radiation dose rate is more than 1 mSv/h from:

40.2.1. a cloud of radioactive spray (calculation shall include the sum of the anticipated ionising radiation dose of the internal and external irradiation from the cloud of radioactive spray and topsoil within the next seven days); or

40.2.2. radioactive pollution of the territory (it shall be assumed in the calculation that the ionising radiation dose in seven days corresponds with 50 % of the ionising radiation dose in an open territory ,because residents are indoors or in blast shelters for a specified time period);

40.3. if the determined ionising radiation dose rate indoors and in blast shelters where residents who have suffered in radiological emergency are staying is more than 0,1 mSv/h.

41. If the anticipated ionising radiation dose:

41.1. is 30 mSv within a time period of 30 days after the accident or the ionising radiation dose rate created by the radioactive pollution of the territory is more than 0,2 mSv/h (taking measurements two to thirty days after the radiological emergency), the residents who have suffered in radiological emergency shall be moved, anticipating their return within a time period of one to two years (the ionising radiation dose in seven days shall correspond with 50 % of the ionising radiation dose in an open territory because the residents are staying indoors or in blast shelters for a definite time period);

41.2. shall reach 1 Sv during the lifetime of a human being, residents who have suffered in radiological emergency shall be moved to other place of residence, not anticipating their return.

42. If within a time period of 30 days after the radiological emergency the possible ionising radiation dose does not exceed 10 mSv, residents who have suffered in a radiological emergency to their permanent place of residence shall be allowed to return.

43. Evacuation shall be performed in accordance with the administrative and territorial principle, ensuring that the ionising radiation doses received by residents who have suffered in a radiological emergency would be as small as possible and the total ionising radiation dose would not exceed 30 mSv during evacuation. In co-ordinating with the State Operational Commission, the Rescue Service shall co-ordinate evacuation measures performed by several local governments concurrently.

44. The local government shall evacuate the residents who have suffered in a radiological emergency in accordance with the plan of action, as well as the co-operation agreements entered into with other local governments, institutions and commercial companies regarding the provision of transport, accommodation of the evacuated and ensuring the provision of the basic essentials required for normal living conditions.

#### **4.4. Decontamination**

45. In co-operation with local governments the Rescue Service and the Centre shall organise the decontamination of residents, technical equipment and livestock suffered in the radiological emergency, by involving an undertaking (a commercial company) dealing with the disposal or management of radioactive waste, if:

45.1. radioactive pollution of the environment exceeds the level specified in regulatory enactments;

45.2. the anticipated ionising radiation dose to residents is larger than 5 mSv/h per year.

46. Decontamination stations shall be formed:

46.1. in the immediate vicinity of the radiation-polluted territory;

46.2. in the immediate vicinity of border crossing points and frontier crossing points;

46.3. in medical treatment institutions.

#### **4.5. Restrictions in the Use of Radiation-Polluted Food Products and Drinking Water**

47. Taking into account the recommendation of the Ministry of Health and (or) the Ministry of Agriculture, the State Operational Commission shall take a decision regarding the protection measures for food products and drinking water.

48. The Food and Veterinary Service and the State Sanitary Inspection according to the competence thereof shall:

48.1. perform the inspection of radioactive pollution in food products and drinking water and inform the Centre regarding the non-compliance with the requirements specified;

48.2. if required, determine the restrictions in the use of radioactive-polluted food products and drinking water.

49. The Food and Veterinary Service and the State Sanitary Inspection according to the competence thereof shall prohibit the use of the food products and drinking water that might be radiation-polluted, in the following cases:

49.1. if the ionising radiation dose rate created by radioactive pollution of the territory is larger than 1 mSv/h;

49.2. if deposits of isotope  $^{131}\text{I}$  on soil create specific radioactivity which:

49.2.1. is more than 10 kBq/m<sup>2</sup>, - the use of food products is prohibited;

49.2.2. is more than 1 kBq/m<sup>2</sup>, - the use of milk and drinking water is prohibited; and

49.3. if deposits of isotope  $^{137}\text{Cs}$  on soil create specific radioactivity, which is more than 2 kBq/m<sup>2</sup>.

50. The use of food products and drinking water is prohibited:

50.1. if the specific radioactivity of isotope  $^{131}\text{I}$  within a time period of 14 days after the nuclear accident:

50.1.1. is more than 1 kBq/kg in food products; and

50.1.2. is more than 0,1 kBq/l in milk and drinking water; and

50.2. if the specific radioactivity of isotope  $^{137}\text{Cs}$  is more than 1 kBq/kg.

#### **4.6. Protection of Livestock from Radioactive Pollution**

51. The State Operational Commission shall take a decision regarding the performance of protection measures in agriculture upon the recommendation of the Ministry of Agriculture.

52. If radioactive pollution exceeds the level specified by regulatory enactments, the Food and Veterinary Service shall ensure the control of radioactive pollution of animal fodder and plants and, if required, introduce such methods of animal fodder processing as to reduce the radioactive pollution in animal fodder and food products of animal origin, as well as determine restrictions in the use of radiation-polluted animal fodder.

53. After co-ordination with the State Operational Commission the Rescue Service shall co-ordinate the relocation of livestock. The owner thereof shall move the livestock.

#### **4.7. Radiological Emergency Caused by a Vehicle**

54. If a vehicle, which transports radioactive materials, has had an accident, the Centre shall co-ordinate the activities for the elimination of the consequences of the radiological emergency on the site.

55. If a vehicle which transports radioactive materials has had a radiological emergency:

55.1. the driver of the vehicle shall perform the emergency protection measures that are specified in the safety data sheet of the ionising radiation source and inform the Centre, the Rescue Service and the relevant local government regarding the event;

55.2. the emergency service that arrives at the radiological emergency site first (if the driver of the vehicle did not have the possibility to inform regarding the radiological emergency and radioactive materials in the cargo) shall notify the Centre and the Rescue Service regarding the radiological emergency, radiation danger labels that are placed on the vehicle and the packaging of radioactive materials, as well as provide other information that characterises the cargo;

55.3. the emergency service that performs activities in the radiological emergency site, shall demarcate the radiological emergency site as being a restricted area if there are suspicions regarding damage of the packaging of the radioactive material, and call a representative of the Centre. The representative of the Centre shall co-ordinate the re-packaging of the damaged package of the radioactive material and other activities for the elimination of the radiological emergency consequences on site;

55.4. the Centre shall co-ordinate the activities on the site of the radiological emergency, preventing irradiation of residents and penetration of radioactive substances from the damaged package of the radioactive material, polluted items and environmental objects into the human organism. External area of the demarcation area of the radiological emergency site shall be guarded by the State police, in the border zone – by the State Border Guard.

#### **4.8. Radiological Emergency in the Area Controlled by the Operator**

56. If a radiological emergency has occurred in the area controlled by an operator, the supervisor of the work crew shall:

56.1. perform the emergency protection measures and inform the Centre about the radiological emergency without delay, providing the following information:

56.1.1. the time, precise location and nature of the radiological emergency;

56.1.2. the possible cause of the radiological emergency and the forecast regarding further developments;

56.1.3. victims of the radiological emergency;

56.1.4. the required aid;

56.1.5. description of the radioactive substances involved in the radiological emergency, also the physical and chemical form and the radioactivity thereof (also the initial evaluation of the radioactivity that has reached the environment);

56.1.6. other criteria which allow the evaluation of the situation and forecast the development thereof; and

56.1.7. the performed and planned protection measures;

56.2. collect, package and prepare for transportation the radioactive waste that has emerged as the result of the radiological emergency.

57. If an incident has taken place, the operator shall notify the Centre immediately and perform protection measures in the area controlled by an operator.

#### **4.9. Radiological Emergencies Caused by Illegal Activity with an Ionising Radiation Source (Theft, Loss) and the Detection of a Stolen or Lost Ionising Radiation Source**

58. If an illegal activity involving ionising radiation source (theft, loss) has been determined, as well as if a stolen or lost ionising radiation source has been found, the work supervisor shall submit a notification regarding such situation to the Security Police and the Centre within a time period of 24 hours (Annex 2). After receipt of additional information the work supervisor shall immediately send to the Centre a further notification.

59. If nuclear material has been stolen, these activities shall be performed in accordance with the procedures specified in Section 22 of the Law On Radiation Safety and Nuclear Safety.

60. The Centre shall inform the relevant institutions, commercial companies and residents that may be under the threat of the radiological emergency regarding the theft or loss of ionising radiation source material, provide a description, pictures (if such are available) and characterisation of the hazard thereof.

61. If a natural person or a legal person has found an ionising radiation source outside the location wherein it is permitted to use and to store such a radiation source, such person shall inform thereof the Rescue Service and the Centre.

62. If a radioactive substance or nuclear material has been found:

62.1. the State Police (if the radioactive substance has been found) or the Security Police (if the nuclear material has been found) upon consultation with the Centre shall organise:

62.1.1. the demarcation of the area and its security within a radius of 30 metres around the possible ionising radiation source; and

- 62.1.2. the examination of the initial information received;
- 62.2. the Centre shall:
- 62.2.1. examine the site of the ionising radiation source and specify the protection measures area borders around the ionising radiation source in order to prevent the irradiation of residents for more than 1 mSv per year. If due to technical or economic reasons it is impossible to demarcate a wide territory, upon co-ordination with the Ministry of Health and a health care or medical treatment establishment the limit of ionising radiation dose at the protection measures area border shall be determined 5 mSv per year ;
- 62.2.2. perform measurements in order to obtain information regarding the found ionising radiation source and ascertain whether pollution of the environment with radioactive substances has occurred;
- 62.2.3. shall perform measures for the collection of the evidence together with the State Police (if a theft of radioactive substance has taken place) or the Security Police (if a theft of nuclear material has taken place); and
- 62.2.4. forward the found ionising radiation source to a radiometry or radiochemistry laboratory in order to identify the ionising radiation source, determine the origin (according to technical capabilities) and the former owner or user thereof.

#### **4.10. Falling Down of an Artificial Earth Satellite Containing Radioactive Materials**

63. If there is a substantiated threat that there is a possibility of an artificial Earth satellite containing radioactive materials falling down in the territory of the Republic of Latvia :
- 63.1. the Centre shall inform the Rescue Service;
- 63.2. the Rescue Service shall:
- 63.2.1. inform the relevant State institutions, local governments and residents under the threat of radiological emergency regarding the possibility of the falling down of an artificial Earth satellite in the territory of the Republic of Latvia and distribute to residents a notification regarding the possible contact with radioactive-polluted debris of the satellite. It shall be indicated in the notification how to act in the event that debris is found; and
- 63.2.2. develop search tactics for locating the debris of the artificial Earth satellite in co-operation with the Centre, involving other institutions and services in the search process if necessary; and
- 63.3. shall get medical treatment institutions ready to provide relevant medical assistance.
64. If the artificial Earth satellite containing radioactive materials has fallen down in the territory of the Republic of Latvia:
- 64.1. the Centre shall inform the International Atomic Energy Agency and, if necessary, ask the International Atomic Energy Agency for help in the research of the radioactive pollution of the territory and in the performance of protection measures; and
- 64.2. the Rescue Service shall:
- 64.2.1. co-ordinate the search for the radioactive debris of the artificial Earth satellite; and
- 64.2.2. organise the emergency protection measures.

## 5. Training for Action in the Event of Radiological Emergency

65. The following persons shall be trained for action in the event of radiological emergency:

65.1. the staff of the State Operational Commission and territorial emergency situation operational commissions;

65.2. operators, heads of crews and workers in the objects; and

65.3. heads and employees of institutions and commercial companies, staff of the National Armed Forces that may get involved in organisation and performance of protection measures in the event of a radiological emergency.

66. The Rescue Service in co-operation with the Centre shall develop recommendations regarding radiation safety and nuclear safety topics to be included in study programmes, as well as regarding the preparedness for a radiological emergency and actions during radiological emergency.

67. In order to ensure preparedness for radiological emergency and reduce danger to workers who may get involved in the organisation and implementation of protection measures, the following training methods shall be used:

67.1. acquisition of qualifications (training in radiation safety and nuclear safety, as well as for action in the event of a radiological emergency and examination of the relevant knowledge);

67.2. further training and the relevant examination once every five years after the acquisition of the qualification;

67.3. training and examination of knowledge regarding the preparedness for radiological emergency and action in the event of the radiological emergency if substantial amendments to regulatory enactments regulating the issues of radiation safety and nuclear safety are made or work conditions or professional duties change;

67.4. State-wide training on protection measures and the practical implementation thereof – once every four years;

67.5. citywide, parish wide and district wide training on protection measures and the practical implementation thereof in the area of emergency protection measures (within a distance of 30 km from the *Ignalina* Nuclear Power Plant) and the area of long-term protection measures (within a distance of 100 km from the *Ignalina* Nuclear Power Plant) – once every three years.

## 6. Request and Receipt of International Assistance

68. The Centre in co-operation with the Ministry of Foreign Affairs shall request assistance from the International Atomic Energy Agency if due to radiological emergency:

68.1. it is necessary to perform wide protection measures of residents and the environment in a populated area in Latvia where there are 5000 residents or more;

68.2. a territory, which is larger than 100 km<sup>2</sup> has been polluted;

68.3. medical treatment institutions are not able to ensure the care and medical treatment of all victims of a radiological emergency;

68.4. it is impossible to perform the required protection measures.

69. The Ministry of Foreign Affairs in co-operation with the Rescue Service and the Centre shall co-ordinate the receipt of international assistance.

70. If in the event of a radiological emergency any other institution, commercial company or non-governmental organisation requires international assistance, the requester shall co-ordinate the request, receipt and use of the assistance with the Rescue Service and the Centre.

71. The Rescue Service shall co-ordinate the participation of international experts and other assistance groups in the elimination and examination of the consequences of the radiological emergency .

### **Informative Reference to European Union Directives**

These Regulations contain legal norms arising from the Directive 89/618/Euratom.

Prime Minister

E. Repše

Minister for the Interior

M. Gulbis

**Significant Amount of Radioactive Substances**

No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
1.	<sup>3</sup> H	10 <sup>12</sup>	10 <sup>15</sup>
2.	<sup>7</sup> Be	10 <sup>10</sup>	10 <sup>13</sup>
3.	<sup>14</sup> C	10 <sup>10</sup>	10 <sup>13</sup>
4.	<sup>14</sup> C	10 <sup>10</sup>	10 <sup>13</sup>
5.	<sup>15</sup> O	10 <sup>12</sup>	10 <sup>15</sup>
6.	<sup>18</sup> F	10 <sup>9</sup>	10 <sup>12</sup>
7.	<sup>22</sup> Na	10 <sup>9</sup>	10 <sup>12</sup>
8.	<sup>24</sup> Na	10 <sup>8</sup>	10 <sup>11</sup>
9.	<sup>31</sup> Si	10 <sup>9</sup>	10 <sup>12</sup>
10.	<sup>32</sup> P	10 <sup>8</sup>	10 <sup>11</sup>
11.	<sup>33</sup> P	10 <sup>11</sup>	10 <sup>14</sup>
12.	<sup>35</sup> S	10 <sup>11</sup>	10 <sup>14</sup>
13.	<sup>36</sup> Cl	10 <sup>9</sup>	10 <sup>12</sup>
14.	<sup>38</sup> Cl	10 <sup>11</sup>	10 <sup>14</sup>
15.	<sup>37</sup> Ar	10 <sup>11</sup>	10 <sup>14</sup>
16.	<sup>41</sup> Ar	10 <sup>12</sup>	10 <sup>15</sup>
17.	<sup>40</sup> K	10 <sup>9</sup>	10 <sup>12</sup>
18.	<sup>42</sup> K	10 <sup>9</sup>	10 <sup>12</sup>
19.	<sup>43</sup> K	10 <sup>9</sup>	10 <sup>12</sup>
20.	<sup>45</sup> Ca	10 <sup>10</sup>	10 <sup>13</sup>
21.	<sup>47</sup> Ca	10 <sup>9</sup>	10 <sup>12</sup>
22.	<sup>46</sup> Sc	10 <sup>9</sup>	10 <sup>12</sup>
23.	<sup>47</sup> Sc	10 <sup>9</sup>	10 <sup>12</sup>
24.	<sup>48</sup> Sc	10 <sup>8</sup>	10 <sup>11</sup>
25.	<sup>48</sup> V	10 <sup>8</sup>	10 <sup>11</sup>
26.	<sup>51</sup> Cr	10 <sup>10</sup>	10 <sup>13</sup>
27.	<sup>51</sup> Mn	10 <sup>8</sup>	10 <sup>11</sup>
28.	<sup>52</sup> Mn	10 <sup>8</sup>	10 <sup>11</sup>
29.	<sup>52m</sup> Mn	10 <sup>8</sup>	10 <sup>11</sup>
30.	<sup>53</sup> Mn	10 <sup>12</sup>	10 <sup>15</sup>
31.	<sup>54</sup> Mn	10 <sup>9</sup>	10 <sup>12</sup>
32.	<sup>56</sup> Mn	10 <sup>8</sup>	10 <sup>11</sup>
33.	<sup>52</sup> Fe	10 <sup>9</sup>	10 <sup>12</sup>



No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
34.	<sup>55</sup> Fe	10 <sup>9</sup>	10 <sup>12</sup>
35.	<sup>59</sup> Fe	10 <sup>9</sup>	10 <sup>12</sup>
36.	<sup>55</sup> Co	10 <sup>9</sup>	10 <sup>12</sup>
37.	<sup>56</sup> Co	10 <sup>8</sup>	10 <sup>11</sup>
38.	<sup>57</sup> Co	10 <sup>9</sup>	10 <sup>12</sup>
39.	<sup>58</sup> Co	10 <sup>9</sup>	10 <sup>12</sup>
40.	<sup>58m</sup> Co	10 <sup>10</sup>	10 <sup>13</sup>
41.	<sup>60</sup> Co	10 <sup>8</sup>	10 <sup>11</sup>
42.	<sup>60m</sup> Co	10 <sup>9</sup>	10 <sup>12</sup>
43.	<sup>61</sup> Co	10 <sup>9</sup>	10 <sup>12</sup>
44.	<sup>62m</sup> Co	10 <sup>8</sup>	10 <sup>11</sup>
45.	<sup>59</sup> Ni	10 <sup>11</sup>	10 <sup>14</sup>
46.	<sup>63</sup> Ni	10 <sup>11</sup>	10 <sup>14</sup>
47.	<sup>65</sup> Ni	10 <sup>9</sup>	10 <sup>12</sup>
48.	<sup>64</sup> Cu	10 <sup>9</sup>	10 <sup>12</sup>
49.	<sup>65</sup> Zn	10 <sup>9</sup>	10 <sup>12</sup>
50.	<sup>69</sup> Zn	10 <sup>9</sup>	10 <sup>12</sup>
51.	<sup>69m</sup> Zn	10 <sup>9</sup>	10 <sup>12</sup>
52.	<sup>72</sup> Ga	10 <sup>8</sup>	10 <sup>11</sup>
53.	<sup>71</sup> Ge	10 <sup>11</sup>	10 <sup>14</sup>
54.	<sup>73</sup> As	10 <sup>10</sup>	10 <sup>13</sup>
55.	<sup>74</sup> As	10 <sup>9</sup>	10 <sup>12</sup>
56.	<sup>76</sup> As	10 <sup>8</sup>	10 <sup>11</sup>
57.	<sup>77</sup> As	10 <sup>9</sup>	10 <sup>12</sup>
58.	<sup>75</sup> Se	10 <sup>9</sup>	10 <sup>12</sup>
59.	<sup>82</sup> Br	10 <sup>9</sup>	10 <sup>12</sup>
60.	<sup>74</sup> Kr	10 <sup>12</sup>	10 <sup>15</sup>
61.	<sup>76</sup> Kr	10 <sup>12</sup>	10 <sup>15</sup>
62.	<sup>77</sup> Kr	10 <sup>12</sup>	10 <sup>15</sup>
63.	<sup>79</sup> Kr	10 <sup>12</sup>	10 <sup>15</sup>
64.	<sup>81</sup> Kr	10 <sup>10</sup>	10 <sup>13</sup>
65.	<sup>83m</sup> Kr	10 <sup>15</sup>	10 <sup>18</sup>
66.	<sup>85</sup> Kr	10 <sup>14</sup>	10 <sup>17</sup>
67.	<sup>85m</sup> Kr	10 <sup>13</sup>	10 <sup>16</sup>
68.	<sup>87</sup> Kr	10 <sup>12</sup>	10 <sup>15</sup>
69.	<sup>88</sup> Kr	10 <sup>12</sup>	10 <sup>15</sup>
70.	<sup>86</sup> Rb	10 <sup>8</sup>	10 <sup>11</sup>
71.	<sup>85</sup> Sr	10 <sup>9</sup>	10 <sup>12</sup>
72.	<sup>85m</sup> sR	10 <sup>10</sup>	10 <sup>13</sup>
73.	<sup>87m</sup> Sr	10 <sup>9</sup>	10 <sup>12</sup>

No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
74.	<sup>89</sup> Sr	10 <sup>9</sup>	10 <sup>12</sup>
75.	<sup>90</sup> Sr+	10 <sup>7</sup>	10 <sup>10</sup>
76.	<sup>91</sup> Sr	10 <sup>8</sup>	10 <sup>11</sup>
77.	<sup>92</sup> Sr	10 <sup>9</sup>	10 <sup>12</sup>
78.	<sup>90</sup> Y	10 <sup>8</sup>	10 <sup>11</sup>
79.	<sup>91</sup> Y	10 <sup>9</sup>	10 <sup>12</sup>
80.	<sup>91m</sup> Y	10 <sup>9</sup>	10 <sup>12</sup>
81.	<sup>92</sup> Y	10 <sup>8</sup>	10 <sup>11</sup>
82.	<sup>93</sup> Y	10 <sup>8</sup>	10 <sup>11</sup>
83.	<sup>93</sup> Zr+	10 <sup>10</sup>	10 <sup>13</sup>
84.	<sup>95</sup> Zr	10 <sup>9</sup>	10 <sup>12</sup>
85.	<sup>97</sup> Zr+	10 <sup>8</sup>	10 <sup>11</sup>
86.	<sup>93m</sup> Nb	10 <sup>10</sup>	10 <sup>13</sup>
87.	<sup>94</sup> Nb	10 <sup>9</sup>	10 <sup>12</sup>
88.	<sup>95</sup> Nb	10 <sup>9</sup>	10 <sup>12</sup>
89.	<sup>97</sup> Nb	10 <sup>9</sup>	10 <sup>12</sup>
90.	<sup>98</sup> Nb	10 <sup>8</sup>	10 <sup>11</sup>
91.	<sup>90</sup> Mo	10 <sup>9</sup>	10 <sup>12</sup>
92.	<sup>93</sup> Mo	10 <sup>11</sup>	10 <sup>14</sup>
93.	<sup>99</sup> Mo	10 <sup>9</sup>	10 <sup>12</sup>
94.	<sup>101</sup> Mo	10 <sup>9</sup>	10 <sup>12</sup>
95.	<sup>96</sup> Tc	10 <sup>9</sup>	10 <sup>12</sup>
96.	<sup>96m</sup> Tc	10 <sup>10</sup>	10 <sup>13</sup>
97.	<sup>97</sup> Tc	10 <sup>11</sup>	10 <sup>14</sup>
98.	<sup>97m</sup> Tc	10 <sup>10</sup>	10 <sup>13</sup>
99.	<sup>99</sup> Tc	10 <sup>10</sup>	10 <sup>13</sup>
100.	<sup>99m</sup> Tc	10 <sup>10</sup>	10 <sup>13</sup>
101.	<sup>97</sup> Ru	10 <sup>10</sup>	10 <sup>13</sup>
102.	<sup>103</sup> Ru	10 <sup>9</sup>	10 <sup>12</sup>
103.	<sup>105</sup> Ru	10 <sup>9</sup>	10 <sup>12</sup>
104.	<sup>106</sup> Ru+	10 <sup>8</sup>	10 <sup>11</sup>
105.	<sup>103m</sup> Ru	10 <sup>11</sup>	10 <sup>14</sup>
106.	<sup>105</sup> Rh	10 <sup>10</sup>	10 <sup>13</sup>
107.	<sup>103</sup> Pd	10 <sup>11</sup>	10 <sup>14</sup>
108.	<sup>109</sup> Pd	10 <sup>9</sup>	10 <sup>12</sup>
109.	<sup>105</sup> Ag	10 <sup>9</sup>	10 <sup>12</sup>
110.	<sup>110m</sup> Ag	10 <sup>9</sup>	10 <sup>12</sup>
111.	<sup>111</sup> Ag	10 <sup>9</sup>	10 <sup>12</sup>
112.	<sup>109</sup> Cd	10 <sup>9</sup>	10 <sup>12</sup>
113.	<sup>115</sup> Cd	10 <sup>9</sup>	10 <sup>12</sup>

No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
114.	<sup>115m</sup> Cd	10 <sup>9</sup>	10 <sup>12</sup>
115.	<sup>111</sup> In	10 <sup>9</sup>	10 <sup>12</sup>
116.	<sup>113m</sup> In	10 <sup>9</sup>	10 <sup>12</sup>
117.	<sup>114m</sup> In	10 <sup>9</sup>	10 <sup>12</sup>
118.	<sup>115m</sup> In	10 <sup>9</sup>	10 <sup>12</sup>
119.	<sup>113</sup> Sn	10 <sup>10</sup>	10 <sup>13</sup>
120.	<sup>125</sup> Sn	10 <sup>8</sup>	10 <sup>11</sup>
121.	<sup>122</sup> Sb	10 <sup>7</sup>	10 <sup>10</sup>
122.	<sup>124</sup> Sb	10 <sup>9</sup>	10 <sup>12</sup>
123.	<sup>125</sup> Sb	10 <sup>9</sup>	10 <sup>12</sup>
124.	<sup>123m</sup> Te	10 <sup>10</sup>	10 <sup>13</sup>
125.	<sup>125m</sup> Te	10 <sup>10</sup>	10 <sup>13</sup>
126.	<sup>127</sup> Te	10 <sup>9</sup>	10 <sup>12</sup>
127.	<sup>127m</sup> Te	10 <sup>10</sup>	10 <sup>13</sup>
128.	<sup>129</sup> Te	10 <sup>9</sup>	10 <sup>12</sup>
129.	<sup>129m</sup> Te	10 <sup>9</sup>	10 <sup>12</sup>
130.	<sup>131</sup> Te	10 <sup>8</sup>	10 <sup>11</sup>
131.	<sup>131m</sup> Te	10 <sup>9</sup>	10 <sup>12</sup>
132.	<sup>132</sup> Te	10 <sup>10</sup>	10 <sup>13</sup>
133.	<sup>133</sup> Te	10 <sup>8</sup>	10 <sup>11</sup>
134.	<sup>133m</sup> Te	10 <sup>8</sup>	10 <sup>11</sup>
135.	<sup>134</sup> Te	10 <sup>9</sup>	10 <sup>12</sup>
136.	<sup>123</sup> I	10 <sup>10</sup>	10 <sup>13</sup>
137.	<sup>125</sup> I	10 <sup>9</sup>	10 <sup>12</sup>
138.	<sup>126</sup> I	10 <sup>9</sup>	10 <sup>12</sup>
139.	<sup>129</sup> I	10 <sup>8</sup>	10 <sup>11</sup>
140.	<sup>130</sup> I	10 <sup>9</sup>	10 <sup>12</sup>
141.	<sup>131</sup> I	10 <sup>9</sup>	10 <sup>12</sup>
142.	<sup>132</sup> I	10 <sup>8</sup>	10 <sup>11</sup>
143.	<sup>133</sup> I	10 <sup>9</sup>	10 <sup>12</sup>
144.	<sup>134</sup> I	10 <sup>8</sup>	10 <sup>11</sup>
145.	<sup>135</sup> I	10 <sup>9</sup>	10 <sup>12</sup>
146.	<sup>131m</sup> Xe	10 <sup>7</sup>	10 <sup>10</sup>
147.	<sup>133</sup> Xe	10 <sup>7</sup>	10 <sup>10</sup>
148.	<sup>135</sup> Xe	10 <sup>13</sup>	10 <sup>16</sup>
149.	<sup>129</sup> Cs	10 <sup>8</sup>	10 <sup>11</sup>
150.	<sup>131</sup> Cs	10 <sup>9</sup>	10 <sup>12</sup>
151.	<sup>132</sup> Cs	10 <sup>8</sup>	10 <sup>11</sup>
152.	<sup>134m</sup> Cs	10 <sup>8</sup>	10 <sup>11</sup>
153.	<sup>134</sup> Cs	10 <sup>7</sup>	10 <sup>10</sup>

No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
154.	<sup>135</sup> Cs	10 <sup>10</sup>	10 <sup>13</sup>
155.	<sup>136</sup> Cs	10 <sup>8</sup>	10 <sup>11</sup>
156.	<sup>137</sup> Cs+	10 <sup>7</sup>	10 <sup>10</sup>
157.	<sup>138</sup> Cs	10 <sup>7</sup>	10 <sup>10</sup>
158.	<sup>131</sup> Ba	10 <sup>9</sup>	10 <sup>12</sup>
159.	<sup>140</sup> Ba+	10 <sup>8</sup>	10 <sup>11</sup>
160.	<sup>140</sup> La	10 <sup>8</sup>	10 <sup>11</sup>
161.	<sup>139</sup> Ce	10 <sup>9</sup>	10 <sup>12</sup>
162.	<sup>141</sup> Ce	10 <sup>10</sup>	10 <sup>13</sup>
163.	<sup>134</sup> Ce	10 <sup>9</sup>	10 <sup>12</sup>
164.	<sup>144</sup> Ce+	10 <sup>8</sup>	10 <sup>11</sup>
165.	<sup>142</sup> Pr	10 <sup>8</sup>	10 <sup>11</sup>
166.	<sup>143</sup> Pr	10 <sup>9</sup>	10 <sup>12</sup>
167.	<sup>147</sup> Nd	10 <sup>9</sup>	10 <sup>12</sup>
168.	<sup>149</sup> Nd	10 <sup>9</sup>	10 <sup>12</sup>
169.	<sup>147</sup> Pm	10 <sup>10</sup>	10 <sup>13</sup>
170.	<sup>149</sup> Pm	10 <sup>9</sup>	10 <sup>12</sup>
171.	<sup>151</sup> Sm	10 <sup>11</sup>	10 <sup>14</sup>
172.	<sup>153</sup> Sm	10 <sup>9</sup>	10 <sup>12</sup>
173.	<sup>152</sup> Eu	10 <sup>9</sup>	10 <sup>12</sup>
174.	<sup>152m</sup> Eu	10 <sup>9</sup>	10 <sup>12</sup>
175.	<sup>154</sup> Eu	10 <sup>9</sup>	10 <sup>12</sup>
176.	<sup>155</sup> Eu	10 <sup>10</sup>	10 <sup>13</sup>
177.	<sup>153</sup> Gd	10 <sup>10</sup>	10 <sup>13</sup>
178.	<sup>159</sup> Gd	10 <sup>9</sup>	10 <sup>12</sup>
179.	<sup>160</sup> Tb	10 <sup>9</sup>	10 <sup>12</sup>
180.	<sup>165</sup> Dy	10 <sup>9</sup>	10 <sup>12</sup>
181.	<sup>166</sup> Dy	10 <sup>9</sup>	10 <sup>12</sup>
182.	<sup>166</sup> Ho	10 <sup>8</sup>	10 <sup>11</sup>
183.	<sup>169</sup> Er	10 <sup>10</sup>	10 <sup>13</sup>
184.	<sup>171</sup> Er	10 <sup>9</sup>	10 <sup>12</sup>
185.	<sup>170</sup> Tm	10 <sup>9</sup>	10 <sup>12</sup>
186.	<sup>171</sup> Tm	10 <sup>11</sup>	10 <sup>14</sup>
187.	<sup>175</sup> Yb	10 <sup>10</sup>	10 <sup>13</sup>
188.	<sup>177</sup> Lu	10 <sup>10</sup>	10 <sup>13</sup>
189.	<sup>181</sup> Hf	10 <sup>9</sup>	10 <sup>12</sup>
190.	<sup>182</sup> Ta	10 <sup>7</sup>	10 <sup>10</sup>
191.	<sup>181</sup> W	10 <sup>10</sup>	10 <sup>13</sup>
192.	<sup>185</sup> W	10 <sup>10</sup>	10 <sup>13</sup>
193.	<sup>187</sup> W	10 <sup>9</sup>	10 <sup>12</sup>

No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
194.	<sup>186</sup> Re	10 <sup>9</sup>	10 <sup>12</sup>
195.	<sup>188</sup> Re	10 <sup>8</sup>	10 <sup>11</sup>
196.	<sup>185</sup> Os	10 <sup>9</sup>	10 <sup>12</sup>
197.	<sup>191</sup> Os	10 <sup>10</sup>	10 <sup>13</sup>
198.	<sup>191m</sup> Os	10 <sup>10</sup>	10 <sup>13</sup>
199.	<sup>193</sup> Os	10 <sup>9</sup>	10 <sup>12</sup>
200.	<sup>190</sup> Ir	10 <sup>9</sup>	10 <sup>12</sup>
201.	<sup>192</sup> Ir	10 <sup>7</sup>	10 <sup>10</sup>
202.	<sup>194</sup> Ir	10 <sup>8</sup>	10 <sup>11</sup>
203.	<sup>191</sup> Pt	10 <sup>9</sup>	10 <sup>12</sup>
204.	<sup>193m</sup> Pt	10 <sup>10</sup>	10 <sup>13</sup>
205.	<sup>197</sup> Pt	10 <sup>9</sup>	10 <sup>12</sup>
206.	<sup>197m</sup> Pt	10 <sup>9</sup>	10 <sup>12</sup>
207.	<sup>198</sup> Au	10 <sup>9</sup>	10 <sup>12</sup>
208.	<sup>199</sup> Au	10 <sup>9</sup>	10 <sup>12</sup>
209.	<sup>197</sup> Hg	10 <sup>10</sup>	10 <sup>13</sup>
210.	<sup>197m</sup> Hg	10 <sup>9</sup>	10 <sup>12</sup>
211.	<sup>203</sup> Hg	10 <sup>8</sup>	10 <sup>11</sup>
212.	<sup>200</sup> Tl	10 <sup>9</sup>	10 <sup>12</sup>
213.	<sup>201</sup> Tl	10 <sup>9</sup>	10 <sup>12</sup>
214.	<sup>202</sup> Tl	10 <sup>9</sup>	10 <sup>12</sup>
215.	<sup>204</sup> Tl	10 <sup>7</sup>	10 <sup>10</sup>
216.	<sup>203</sup> Pb	10 <sup>9</sup>	10 <sup>12</sup>
217.	<sup>210</sup> Pb+	10 <sup>7</sup>	10 <sup>10</sup>
218.	<sup>212</sup> Pb+	10 <sup>8</sup>	10 <sup>11</sup>
219.	<sup>206</sup> Bi	10 <sup>8</sup>	10 <sup>11</sup>
220.	<sup>207</sup> Bi	10 <sup>9</sup>	10 <sup>12</sup>
221.	<sup>210</sup> Bi	10 <sup>9</sup>	10 <sup>12</sup>
222.	<sup>212</sup> Bi+	10 <sup>8</sup>	10 <sup>11</sup>
223.	<sup>203</sup> Po	10 <sup>9</sup>	10 <sup>12</sup>
224.	<sup>205</sup> Po	10 <sup>9</sup>	10 <sup>12</sup>
225.	<sup>207</sup> Po	10 <sup>9</sup>	10 <sup>12</sup>
226.	<sup>210</sup> Po	10 <sup>7</sup>	10 <sup>10</sup>
227.	<sup>211</sup> At	10 <sup>10</sup>	10 <sup>13</sup>
228.	<sup>220</sup> Rn+	10 <sup>10</sup>	10 <sup>13</sup>
229.	<sup>222</sup> Rn+	10 <sup>11</sup>	10 <sup>14</sup>
230.	<sup>223</sup> Ra+	10 <sup>8</sup>	10 <sup>11</sup>
231.	<sup>224</sup> Ra+	10 <sup>8</sup>	10 <sup>11</sup>
232.	<sup>225</sup> Ra	10 <sup>8</sup>	10 <sup>11</sup>
233.	<sup>226</sup> Ra+	10 <sup>7</sup>	10 <sup>10</sup>

No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
234.	<sup>227</sup> Ra	10 <sup>9</sup>	10 <sup>12</sup>
235.	<sup>228</sup> Ra+	10 <sup>8</sup>	10 <sup>11</sup>
236.	<sup>228</sup> Ac	10 <sup>9</sup>	10 <sup>12</sup>
237.	<sup>226</sup> Th+	10 <sup>10</sup>	10 <sup>13</sup>
238.	<sup>227</sup> Th	10 <sup>7</sup>	10 <sup>10</sup>
239.	<sup>228</sup> Th+	10 <sup>7</sup>	10 <sup>10</sup>
240.	<sup>229</sup> Th+	10 <sup>6</sup>	10 <sup>9</sup>
241.	<sup>230</sup> Th	10 <sup>7</sup>	10 <sup>10</sup>
242.	<sup>231</sup> Th	10 <sup>10</sup>	10 <sup>13</sup>
243.	<sup>232</sup> Th <sup>sec</sup>	10 <sup>6</sup>	10 <sup>9</sup>
244.	<sup>234</sup> Th+	10 <sup>8</sup>	10 <sup>11</sup>
245.	<sup>230</sup> Pa	10 <sup>9</sup>	10 <sup>12</sup>
246.	<sup>231</sup> Pa	10 <sup>6</sup>	10 <sup>9</sup>
247.	<sup>233</sup> Pa	10 <sup>10</sup>	10 <sup>13</sup>
248.	<sup>230</sup> U+	10 <sup>8</sup>	10 <sup>11</sup>
249.	<sup>231</sup> U	10 <sup>10</sup>	10 <sup>13</sup>
250.	<sup>232</sup> U+	10 <sup>6</sup>	10 <sup>9</sup>
251.	<sup>233</sup> U	10 <sup>7</sup>	10 <sup>10</sup>
252.	<sup>234</sup> U	10 <sup>7</sup>	10 <sup>10</sup>
253.	<sup>235</sup> U+	10 <sup>7</sup>	10 <sup>10</sup>
254.	<sup>236</sup> U	10 <sup>7</sup>	10 <sup>10</sup>
255.	<sup>237</sup> U	10 <sup>9</sup>	10 <sup>12</sup>
256.	<sup>238</sup> U+	10 <sup>7</sup>	10 <sup>10</sup>
257.	<sup>238</sup> U <sup>sec</sup>	10 <sup>6</sup>	10 <sup>9</sup>
258.	<sup>239</sup> U	10 <sup>9</sup>	10 <sup>12</sup>
259.	<sup>234</sup> U	10 <sup>10</sup>	10 <sup>13</sup>
260.	<sup>240</sup> U+	10 <sup>9</sup>	10 <sup>12</sup>
261.	<sup>237</sup> Np+	10 <sup>6</sup>	10 <sup>9</sup>
262.	<sup>239</sup> Np	10 <sup>10</sup>	10 <sup>13</sup>
263.	<sup>240</sup> Np	10 <sup>9</sup>	10 <sup>12</sup>
264.	<sup>234</sup> Pu	10 <sup>10</sup>	10 <sup>13</sup>
265.	<sup>235</sup> Pu	10 <sup>10</sup>	10 <sup>13</sup>
266.	<sup>236</sup> Pu	10 <sup>7</sup>	10 <sup>10</sup>
267.	<sup>237</sup> Pu	10 <sup>10</sup>	10 <sup>13</sup>
268.	<sup>238</sup> Pu	10 <sup>7</sup>	10 <sup>10</sup>
269.	<sup>239</sup> Pu	10 <sup>7</sup>	10 <sup>10</sup>
270.	<sup>240</sup> Pu	10 <sup>6</sup>	10 <sup>9</sup>
271.	<sup>241</sup> Pu	10 <sup>8</sup>	10 <sup>11</sup>
272.	<sup>242</sup> Pu	10 <sup>7</sup>	10 <sup>10</sup>
273.	<sup>243</sup> Pu	10 <sup>10</sup>	10 <sup>13</sup>

No.	Radionuclide	Radioactivity for unsealed radiation sources, Bq	Radioactivity for sealed radiation sources, Bq
1	2	3	4
274.	<sup>244</sup> Pu	10 <sup>7</sup>	10 <sup>10</sup>
275.	<sup>241</sup> Am	10 <sup>7</sup>	10 <sup>10</sup>
276.	<sup>242</sup> Am	10 <sup>9</sup>	10 <sup>12</sup>
277.	<sup>242m</sup> Am+	10 <sup>7</sup>	10 <sup>10</sup>
278.	<sup>234</sup> Am+	10 <sup>6</sup>	10 <sup>9</sup>
279.	<sup>242</sup> Cm	10 <sup>8</sup>	10 <sup>11</sup>
280.	<sup>243</sup> Cm	10 <sup>7</sup>	10 <sup>10</sup>
281.	<sup>244</sup> Cm	10 <sup>7</sup>	10 <sup>10</sup>
282.	<sup>245</sup> Cm	10 <sup>6</sup>	10 <sup>9</sup>
283.	<sup>246</sup> Cm	10 <sup>6</sup>	10 <sup>9</sup>
284.	<sup>247</sup> Cm	10 <sup>6</sup>	10 <sup>9</sup>
285.	<sup>248</sup> Cm	10 <sup>6</sup>	10 <sup>9</sup>
286.	<sup>249</sup> Bk	10 <sup>9</sup>	10 <sup>12</sup>
287.	<sup>246</sup> Cf	10 <sup>9</sup>	10 <sup>12</sup>
288.	<sup>248</sup> Cf	10 <sup>7</sup>	10 <sup>10</sup>
289.	<sup>249</sup> Cf	10 <sup>6</sup>	10 <sup>9</sup>
290.	<sup>250</sup> Cf	10 <sup>7</sup>	10 <sup>10</sup>
291.	<sup>251</sup> Cf	10 <sup>6</sup>	10 <sup>9</sup>
292.	<sup>252</sup> Cf	10 <sup>7</sup>	10 <sup>10</sup>
293.	<sup>253</sup> Cf	10 <sup>8</sup>	10 <sup>11</sup>
294.	<sup>254</sup> Cf	10 <sup>6</sup>	10 <sup>9</sup>
295.	<sup>253</sup> Es	10 <sup>8</sup>	10 <sup>11</sup>
296.	<sup>254</sup> Es	10 <sup>7</sup>	10 <sup>10</sup>
297.	<sup>254m</sup> Es	10 <sup>9</sup>	10 <sup>12</sup>
298.	<sup>254</sup> Fm	10 <sup>10</sup>	10 <sup>13</sup>
299.	<sup>256</sup> Fm	10 <sup>9</sup>	10 <sup>12</sup>

Minister for the Interior

M. Gulbis

**Notification Regarding Illegal Activity Involving an Ionising Radiation Source (Theft, Losing) and the Detection of a Stolen or Lost Ionising Radiation Source**

To the Radiation Safety Centre and the Security Police

**Status of the notification** (specify one):      **Registration number** \_\_\_\_\_

first information

specified information

Part I. Generally Accessible Information	
<b>Date when the illegal activity was detected</b>	<b>Location where the illegal activity has taken place</b>
<b>The possible date of theft or loss</b>	<b>The last known location of the ionised radiation source</b>
<b>Nature of the illegal activity</b>	
<b>Source of ionising radiation</b>	
Nuclear material	Other source of ionising radiation
<input type="checkbox"/> natural uranium <input type="checkbox"/> depleted uranium <input type="checkbox"/> thorium <input type="checkbox"/> low enriched uranium (< 20 % <sup>235</sup> U) <input type="checkbox"/> highly enriched uranium (> 20 % <sup>235</sup> U) <input type="checkbox"/> uranium 233 <input type="checkbox"/> plutonium <input type="checkbox"/> other (specify) isotopic composition (%) <sup>235</sup> U [ ] <sup>233</sup> U [ ] <sup>239</sup> Pu [ ] quantity [ ] kg [ ] g	Radionuclide Radioactivity <sup>1</sup> ([ ] Bq or [ ] Ci)  <input type="checkbox"/> sealed radiation source  <input type="checkbox"/> unsealed radiation source
<b>Chemical description</b> (U <sub>3</sub> O <sub>8</sub> , oxide, metal, UF <sub>6</sub> , tritium water or other chemical composition)	
<b>Physical description</b> (tablets, powder, gas, aqueous solution, fuel elements, scrap metal or other form)	
<b>Comments</b> (any additional information, protection measures performed, request for support to the addressee)	



## Part II. Additional Information

(Specify whether the relevant information is or is not restricted access information)

1. Means used for the detection of the ionising radiation source (also type of the used device)	[ ] yes [ ] no
2. Intended use of the ionising radiation source (for sale, disposal, processing or other purpose)	[ ] yes [ ] no
3. Person who has performed illegal activity with the ionising radiation source	[ ] yes [ ] no
4. Persons or institutions involved in the detection of illegal activity with the ionising radiation source	[ ] yes [ ] no
5. Description of the container, package and label of the ionising radiation source	[ ] yes [ ] no
6. Measurements or laboratory analysis of the ionising radiation	[ ] yes [ ] no
7. Laboratory that has performed (is performing) measurements and analyses	[ ] yes [ ] no
8. Other activities performed	[ ] yes [ ] no
9. Other information and comments	[ ] yes [ ] no

\_\_\_\_\_ (the name of the State Institution and the position, given name, surname of the authorised person)

\_\_\_\_\_ (signature of the authorised person)

\_\_\_\_\_ (date)

Place for a seal

Notes.

<sup>1</sup> 1 Bq = 1 disintegration/s; 1 Ci = 3,7 x 10<sup>10</sup>Bq.

<sup>2</sup> If isotopic composition is not known, a note *nav zināms* [not known] or *nav pārbaudīts* [not examined] shall be made.

Minister for the Interior

M. Gulbis