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Republic of Latvia

Cabinet

Regulation No 508

Adopted 4 November 2002

Requirements for Physical Protection of Sources of Ionising Radiation

*Issued pursuant to Section 9, Paragraph four, Clause 1 of the Law
On Radiation Safety and Nuclear Safety*

1. General Provisions

1. These Regulations prescribe the requirements for the physical protection of sources of ionising radiation.
2. An operator within whose controlled area a source of ionising radiation is located for which a special permit (licence) or permit for operations with sources of ionising radiation is required (hereinafter — protected source) shall ensure fulfilment of the requirements for the physical protection of the source referred to in order to prevent unauthorised operations — sabotage, theft, unauthorised removal, alteration or use of the protected source, damage or destruction thereof.
3. Possible performers of unauthorised operations (attackers) shall be divided into two groups:
 - 3.1. internal attacker — any worker (including security guards) who attempts to carry out or carries out unauthorised operations within the operator-controlled area where a protected source is located (hereinafter — protected facility) in order to commit a criminal offence, including passive or active support of the intruder; and
 - 3.2. intruder — an attacker from outside who attempts to enter or has entered the protected facility without authorisation in order to commit a criminal offence.
4. The physical protection system shall consist of the following elements:
 - 4.1. a detection system — disclosure and identification of unauthorised operations;
 - 4.2. an assessment system — identification of the internal attacker and intruder;
 - 4.3. a delaying system — delaying of unauthorised operations and slowing down of the movement of the internal attacker or intruder; and
 - 4.4. a response system — arrest or neutralisation of the internal attacker and intruder.

5. Compliance with the requirements for physical protection shall be controlled by the Security Police and the Radiation Safety Centre. The Radiation Safety Centre shall consult the Security Police regarding possible radioactive contamination and exposure at the protected facilities due to unauthorised operations.

6. Filming or photographing the physical protection system equipment and the operation thereof at protected facilities shall be prohibited, except for training material intended for specialists regarding the physical protection of sources of ionising radiation if such activities are co-ordinated with the Security Police.

7. In processing or editing training material on the physical protection of sources of ionising radiation, indications regarding a specific protected facility shall be eliminated as far as possible and photographs or sections of film in which all elements of one facility are shown in total or detailed schemes of the physical protection system of sources of ionising radiation shall be separated. The training material on physical protection of sources of ionising radiation may not be copied without the permission of the Security Police.

8. It is prohibited to organise public meetings, demonstrations and pickets within the increased security area of the protected facility specified in Sub-paragraph 28.2 of these Regulations, except for strikes by workers.

9. Taking into account the exposure dose rate produced by nuclear materials, they shall be divided into two groups:

9.1. unirradiated nuclear materials — nuclear materials which are not irradiated in a nuclear reactor and whose exposure dose rate at a distance of one meter from unshielded material does not exceed 1 Sv/h; and

9.2. irradiated nuclear materials — nuclear materials which are irradiated in a nuclear reactor and whose exposure dose rate at a distance of one meter from unshielded material exceeds 1 Sv/h.

10. Taking into account the danger of the protected source, protected facilities shall be divided into four categories. The categories referred to are specified in Paragraphs 11, 12, 13 and 14 of these Regulations.

11. A Category I protected facility shall contain the following protected sources:

11.1. nuclear materials:

11.1.1. unirradiated plutonium, any isotopes or mixture thereof, if the total amount of plutonium exceeds two kilograms, except for cases when it contains more than 80% of Pu²³⁸;

11.1.2. unirradiated uranium whose enrichment with isotope U²³⁵ is more than 20% and the total amount of uranium exceeds five kilograms;

11.1.3. unirradiated uranium isotope U²³³ if its amount exceeds two kilograms; and

11.1.4. irradiated nuclear fuel if its enrichment with U²³⁵, U²³³ or any other plutonium isotope, except for Pu²³⁸, exceeds 10% and it contains more than one kilogram of these isotopes when calculated per 100% of the enrichment; and
11.2. a source of ionising radiation of national significance.

12. A Category II protected facility shall contain the following protected sources:

12.1. nuclear materials:

12.1.1. unirradiated plutonium, any isotopes or mixture thereof, if the total amount of plutonium is 0.5-2.0 kilograms, except for cases where it contains more than 80% of Pu²³⁸;

12.1.2. unirradiated uranium whose enrichment with isotope U²³⁵ is more than 20% and the total amount of uranium is 1.0-5.0 kilograms;

12.1.3. unirradiated uranium whose enrichment with isotope U²³⁵ is 10%-20% and the total amount of uranium exceeds ten kilograms;

12.1.4. unirradiated uranium isotope U²³³ if its amount is 0.5-2.0 kilograms; and

12.1.5. irradiated nuclear fuel if its enrichment with U²³⁵, U²³³ or any other plutonium isotope, except Pu²³⁸, does not exceed 10% and it contains less than one kilogram of these isotopes when calculated per 100% of the enrichment;

12.2. sources of ionising radiation specified in Annex 1 of Cabinet Regulation No 301 of 3 July 2001, Procedures for Issuance of Special Permits (Licences) and Permits for Operations with Sources of Ionising Radiation, and Procedures by which the Establishment of Ionising Radiation Facilities of National Significance or the Performance of Essential Changes therein are Publicly Discussed, which are included in the list of goods of strategic significance — arms, armament and ammunition;

12.3. a radioactive substance whose total radioactivity exceeds the limits prescribed by regulatory enactments 10⁶–10⁹ times for which a special permit (licence) or permit for operations with sources of ionising radiation is required, except for nuclear materials and hydrogen isotope H³; and

12.4. a source of ionising radiation whose ionising radiation dose rate at a distance of one meter from the source of ionising radiation is greater than 10 Sv/h.

13. A Category III protected facility shall contain the following protected sources:

13.1. nuclear materials:

13.1.1. unirradiated plutonium, any isotopes or mixture thereof, if the total amount of plutonium is 15-500 grams, except for cases when it contains more than 80% of Pu²³⁸;

13.1.2. unirradiated uranium whose enrichment with isotope U²³⁵ is greater than 20% and the total amount of uranium is 15—1000 grams;

13.1.3. unirradiated uranium whose enrichment with isotope U²³⁵ is 10%—20% and the total amount of uranium is 1—10 kilograms;

13.1.4. unirradiated uranium whose enrichment with isotope U²³⁵ is 0.075%—10% and the total amount of uranium is greater than 10 kilograms; and

- 13.1.5. unirradiated uranium isotope U^{233} if its amount is 15—500 grams;
 - 13.2. material related to nuclear materials where:
 - 13.2.1. the amount of H^3 exceeds 10^{15} Bq;
 - 13.2.2. the amount of H^2 exceeds 1000 kg; and
 - 13.2.3. the amount of Li^6 exceeds 30 g;
 - 13.3. sources of ionising radiation specified in Annex 3 of the Cabinet Regulation No 301 of 3 July 2001, Procedures for Issuance of Special Permits (Licences) and Permits for Operations with Sources of Ionising Radiation, and Procedures by which the Establishment of Ionising Radiation Facilities of National Significance or the Performance of Essential Changes therein are Publicly Discussed, except for the radioactive substances included in the referred to Annex;
 - 13.4. a radioactive substance whose total radioactivity exceeds the limits prescribed by regulatory enactments 10^3 – 10^6 times for which a special permit (licence) or permit for operations with sources of ionising radiation is required, except for nuclear materials and hydrogen isotope H^3 ; and
 - 13.5. a source of ionising radiation whose ionising radiation dose rate at a distance of one meter from the source of ionising radiation is 0.1—10 Sv/h or the X-ray equipment if the strength of current exceeds 10 mA and the X-ray energy 100 keV.
14. A Category IV protected facility shall contain the following protected sources:
- 14.1. nuclear materials the amount of which is less than the amount of nuclear materials located in a Category III protected facility, but exceeds the amount of nuclear materials for the use of which a special permit (licence) or permit for operations with sources of ionising radiation is required;
 - 14.2. material related to nuclear material where:
 - 14.2.1. the amount of H^3 is less than 10^{15} Bq but more than 10^{12} Bq;
 - 14.2.2. the amount of H^2 is less than 1000 kg but more than 10 kg; and
 - 14.2.3. the amount of Li^6 is less than 30 g but more than 3 g;
 - 14.3. a radioactive substance whose total radioactivity not more than 10^3 times exceeds the limits prescribed by regulatory enactments for which a special permit (licence) or permit for operations with sources of ionising radiation is required; and
 - 14.4. a source of ionising radiation whose ionising radiation dose rate at a distance of one meter from the source of ionising radiation is less than 0.1 Sv/h.

2. Planning of Physical Protection System

2.1. General Requirements

15. When planning any operation at a protected facility the operator shall ensure effective physical protection system which:
- 15.1. does not hinder compliance with radiation safety, nuclear safety, fire safety and health protection requirements;
 - 15.2. does not impede the elimination of the consequences of a radiation emergency;

15.3. does not hinder the recording, control of protected sources and authorised operations at a protected facility; and

15.4. ensures that all elements of the physical protection system operate simultaneously, complementing one another.

16. The operator shall choose suitable technical elements and administrative instruments for the physical protection system, including internal instructions regarding the entry and exit control of workers and visitors in the protected facility and procedures for the registration of entry and exit. The technical elements of physical protection systems shall not be used if the necessary safety degree may be reached by administrative means.

17. In the physical protection system one or more installations shall be utilised to switch on and switch off the blocking system, the alarm system or other physical protection equipment which may be operated by means of a key specially constructed and created for such purpose (hereinafter — control equipment).

18. When planning the physical protection system, a continuous power supply to all elements of the physical protection system in emergency cases and during repairs of the electricity supply network shall be provided for. If necessary, autonomous reserve feeding sources or reserve feeding from the supply network of the power supplier shall be installed.

19. In the Category I and II protected facilities, when designing and creating the internal electricity supply networks:

19.1. security shall be provided for continuous supply of power to all elements of the physical protection system, fire fighting equipment, radiation safety and nuclear safety management and control equipment and instruments under normal operating conditions, as well as in emergency cases or during repairs upon disconnection of one of the electricity inputs;

19.2. the following technical capacity shall be ensured:

19.2.1. switching to the emergency regime power supply shall take place automatically and such switching shall not cause disturbances in the operation of the security equipment;

19.2.2. the alarm shall switch on automatically at the security stations if switching to the emergency regime power supply has taken place;

19.2.3. under emergency regime all equipment may operate as long as necessary to restore normal power supply; and

19.2.4. emergency power supply equipment under emergency operation conditions shall be protected against external environmental factors.

20. At Category I and II protected facilities, the operator shall examine the state of emergency regime power supply equipment at least once a week, including the amount of fuel for diesel generators and the degree of charging of the accumulators. The examination data shall be registered in a recording journal.

21. The operator shall ensure development of a physical protection plan. The plan shall specify:

21.1. a detailed description of the protected facility which shall include at least the following data:

21.1.1. the locations of the protected sources;

21.1.2. the places where protected sources are brought in and taken out and the flow of protected sources between them;

21.1.3. the total number of workers at the protected facility, the number of workers in each shift, shift schedules and the procedures to control access to protected sources;

21.1.4. the requirements for operations under normal conditions, during repairs and in emergency situations; and

21.1.5. the control and recording system of the protected sources;

21.2. areas in which protection against unauthorised operations are ensured, as well as specify the protected sources in these areas;

21.3. possible movement routes of internal attackers and intruders and activities for overcoming the detection and delaying system;

21.4. the elements of the physical protection system and the technical maintenance thereof, the internal instructions for the entry and exit control of visitors in the protected facility and procedures for the registration of entry and exit, as well as instructions for the action of workers in order to prevent unauthorised operations; and

21.5. analysis of the mutual effect of various physical protection elements.

22. The operator shall co-ordinate physical protection plans for Category I, II and III protected facilities with the Security Police.

2.2. Threat Assessment

23. For the planning of the physical protection system in Category I and II protected facilities the operator shall ensure threat analysis, assessing the following:

23.1. the probability of an attack from outside, attack from ambush or activities carried out by a group of persons with the following characteristics:

23.1.1. its members are well trained, including military experience and army training, and they have a motivation for an attack;

23.1.2. they are supported by workers, including the provision of significant information regarding the physical protection system, facilitation of entry and exit, damaging alarm and communication equipment and directly participating in the attack;

23.1.3. the members thereof have weapons with silencers and auxiliary devices for effective use from a great distance, as well as automatic infantry weapons;

23.1.4. the members thereof have hand tools, including auxiliary devices and explosives in order to break into the protected facility, cause significant damage thereto or to damage buildings, means of transport and elements of the physical protection system;

- 23.1.5. they have road transport (for Category I protected facilities use of other machinery shall also be analysed) for conveyance of the attackers, their arms and technical auxiliary devices or for overcoming of barriers around the protected facility; and
- 23.1.6. the members thereof are able to simultaneously operate in two or more small groups;
- 23.2. the possibility that the unauthorised operations are carried out by a person working in the protected facility (also including the work supervisor and the head of the security guard service) or the persons referred to in co-operation with the intruder;
- 23.3. the possibility of the exchange of restricted access information between the intruder and the persons who may hold any position in the protected facility, thus obtaining:
- 23.3.1. the right to access the protected source;
- 23.3.2. detailed knowledge about the protected facility;
- 23.3.3. special auxiliary devices to access the protected source and be able to carry out operations therewith;
- 23.3.4. simulators of protected sources which may be placed in place of the stolen protected sources in order to prevent determination of the fact of theft; and
- 23.3.5. the possibility to produce forged documents, which are handed over to intruders to facilitate their entry into the protected facility;
- 23.4. a probability that the threat is caused by people with mental abnormalities.
- In respect of Category I protected facilities the Security Police may specify additional categories in the attacker division.

24. A person may be permitted to work with protected sources referred to in Paragraphs 11 and 12, Sub-paragraphs 13.1 or 13.2 of these Regulations when the person has submitted to the operator detailed information regarding previous work, specifying also information regarding a criminal record of the person or his or her relatives of the first degree in respect of a criminal offence.

25. In conformity with Paragraph 24 of these Regulations the operator shall transfer the information provided by the person to the Security Police. The Security Police shall evaluate whether workers may be forced into passively or actively supporting intruders by means of blackmail.

26. Before a worker (including security guard service workers) is permitted to work at a Category I or II protected facility he or she shall confirm the following undertakings with his or her signature:

26.1. under no circumstances to perform unauthorised operations with the protected source;

26.2. by his or her act or failure to act not to promote unauthorised operations with the protected source;

26.3. not to provide information related to the physical protection system to persons who have no right to receive such information; and

26.4. not to take part in strikes if such may endanger the physical protection of the facility, as well as significantly reduce the level of nuclear safety and radiation safety.

2.3. Multiple Barrier System

27. A multiple barrier system shall be created taking into account the principle that an effective physical protection system may be created if several security areas are established around the target of the potential attack and in every next area which is closer to the protected source or to the management systems of the sources of ionising radiation a tighter protection regime is established.

28. In a protected facility the following security areas shall be created:

28.1. a protected area — a territory which encompasses the whole protected facility or a part thereof;

28.2. an increased security area — a territory within the controlled area of the protected facility. The controlled area is a territory around each source of ionising radiation or around a group of sources of ionising radiation located within a compact territory in which the received ionising radiation dose may exceed 20 mSv per year; and

28.3. an inner area — a territory around the protected source within the operator-controlled area.

29. Security areas shall be delimited with protection barriers, which contain detection and delaying systems, which must be successively overcome by attackers until they reach the target of the attack.

30. In Category III and IV protected facilities the protected area may be combined with an increased security area.

31. For the multiple barrier system to operate effectively a reserve system shall be created which may without delay substitute for the principal physical protection system if it is damaged or a technical failure in its operations occurs. In reserve systems the utilisation of such equipment and technologies is advised which differ from the principal system in order to make it difficult for the attackers to simultaneously damage both systems or by one and the same methods.

3. Detection System and Assessment System

32. The detection system which consists of devices registering the changes caused by persons (hereinafter — sensor) shall be combined with alarm assessment systems, attacker identification systems and alarm notification systems, also including therein all communication and display devices related to these systems. Such a complex of the detection system and the assessment system shall be created in order to:

32.1. determine without delay an attempt by an intruder to enter a protected facility;

32.2. be able to distinguish an attack from false alarm signals;

- 32.3. be able to identify the intruder;
- 32.4. distinguish authorised operations from unauthorised operations carried out by a worker; and
- 32.5. be able to timely sound the alarm and to enable the response forces to stop the attacker prior to the performance of an unauthorised operation, including stopping the intruder before he or she has left the protected facility in the case of a theft, but in the case of sabotage — before the intruder has reached the inner area and has performed the act of sabotage.

33. Detection systems in Category I and II protected facilities shall be placed:

- 33.1. around the protected facility;
- 33.2. in close proximity to separate protected sources; and
- 33.3. at the entrance and exit of the protected facility.

34. In Category I and II protected facilities additional detection systems shall be installed in those places of the protected facility where:

34.1. upon performance of an attack, significant harm to the protected source may be caused; and

34.2. for a long time on a regular basis protected sources may be lost in such small amounts that the loss thereof may only be detected after physical inventory.

35. Detection systems in Category III and IV protected facility shall be placed around the increased security area. Detection systems shall not be necessary:

35.1. in a Category III protected facility if appropriate physical protection is ensured by the response system of the protected facility, except for a facility where the protected source referred to in Sub-paragraph 13.1 of these Regulations is located; and

35.2. in a Category IV protected facility if appropriate physical protection is ensured by the response system or the delaying system of the protected facility.

36. Barriers of increased security areas shall be provided with at least two mutually independent attack detection systems, as well as alarm analysis and assessment systems shall be created.

37. In choosing sensors for the detection system the following shall be taken into account:

- 37.1. the specific nature of the protected facility;
- 37.2. the probability of sensor detection; and

37.3. the probability that sensors may be damaged or normal operation thereof may be hindered, therefore preference shall be given to such elements which are difficult to damage or to hinder the operation thereof.

38. Sensors shall be placed in places in which there are fewest external disturbances, which may cause faults in the operation of the sensors, and it is possible to set them to maximum sensibility. In installing the sensors two main methods for disturbance of the sensor operation, which may be used by the attacker, shall be taken into account:

38.1. jamming — the utilisation of auxiliary devices and performance of measures to prevent the sounding of the alarm signal caused by the attacker or to delay the transmission of the alarm signal to the security guard service; and

38.2. avoidance — the movement of the attacker through areas not controlled by the sensors.

39. In order to protect the sensors against jamming the operator shall choose one of the following options:

39.1. devices which sound the alarm if an attempt to damage the sensor is made;

39.2. a mechanically created area which makes it difficult to reach the sensor;

39.3. surveillance of the alarm signal lines at the most endangered points that is carried out by the security guard service;

39.4. self-examination of the alarm signal lines in the whole length thereof using electronic methods; or

39.5. areas which are concurrently controlled by two mutually independent sensors.

40. In order to ensure identification of the attacker or timely discovery of the attack in Category I and II protected facilities, sensors of the detection systems shall be installed around the protected facility and in close proximity to protected sources together with optical devices that allow an awareness of the attack, to identify the attackers or enable the security guard service workers to constantly visually control the protected facility and protected sources.

41. In order to control the movement of the attacker through barriers, sensors shall be placed on walls, doors, the roof and ventilation pipes, including:

41.1. magnetic balance switches;

41.2. glass breaking sensors; and

41.3. optical sensors.

42. In order to control the movement of the attacker in the protected area, detecting in volume shall be utilised, including;

42.1. ultrasound sensors;

42.2. microwave sensors; and

42.3. passive infrared ray sensors.

43. In order to control activities in close proximity of the protected source, point sensors shall be utilised, including:

43.1. capacity sensors for density or other approaching sensors; and

43.2. pressure or touch sensors.

44. In developing the detection system in the increased security and inner area the operator shall ensure that:

44.1. an indication appears on the security control panel and the emergency alarm is set off if any detector gives an alarm signal, as well as in order that it can be determined which detector in which protected area has caused the alarm signal;

44.2. there is an indication if any of the alarm cables is cut;

44.3. there is an indication on the security control panel if any detector is switched off in order to perform authorised operations in the protected facility; and

44.4. all alarm cables and connections thereof are safe and protected against possible sabotage.

45. In developing a detection system around the protected area in Category I and II protected facilities, in addition to the requirements prescribed in Paragraph 44 of these Regulations the operator shall ensure that:

45.1. there is an indication on the security control panel if examination of the alarm signal lines is taking place by connecting measuring equipment thereto; and

45.2. the alarm signal switches on if, under the security regime, the perimeter of the protected area is breached.

46. Any acoustic physical protection alarm signal shall be clearly audible and recognisable. It may not be similar to sound signals produced by vehicles, as well as other sound signals within the protected facility.

47. Acoustic alarm signalling devices shall be so developed that in the period between the signals their oscillation frequency does not exceed $2 \text{ Hz} \pm 1 \text{ Hz}$ and the silence period between the signals is equal to the length of the sound signal (within 10% error limits). For an acoustic alarm signal:

47.1. the minimum loudness shall be at least 100 dB; and

47.2. the length of sound impulses shall be 25-30 seconds.

48. If the acoustic alarm signal may be modulated according to the frequency, the device shall be created so that during the sound impulses the frequency changes from 1800 Hz up to 3550 Hz and back to 1800 Hz.

49. If light is used as an alarm signal, the optical alarm devices shall be created so that they produce 25 second-long light impulses and their operation is at least 5 minutes if the alarm signal is produced automatically upon switching on and switching off the usual lighting devices.

50. If light impulses are utilised as an alarm signal, the signalling frequency shall be $2 \text{ Hz} \pm 1 \text{ Hz}$, light and darkness periods shall be of equal length (within 10% error limits).

51. In Category I and II protected facilities the operator shall ensure observation of the protected facility and identification of the attacker, visibility of the security perimeter, observation in the increased security area and inner area, utilising the closed-circuit television cameras or other appropriate means.

52. In Category I and II protected facilities the operator shall ensure that by means of observation cameras all places significant for the security guard may be well overseen in the increased security area and inner area for 24 hours, as well as that there are no disturbances in the observation system monitors and the image is clear.

53. In Category I and II protected facilities in the increased security area there may be no unseen areas which might be used by the attackers in order to reach the protected facility unnoticed. The operator shall ensure that the security guard workers are able to control what is happening in any furthest place of the security area, also under bad visibility conditions.

4. Delaying System

54. The delaying system shall be so developed as to slow down by technical means:

54.1. an intruder's:

54.1.1. entry into the protected facility over or through the barriers around the protected facility;

54.1.2. movement around the protected facility;

54.1.3. arrival at the protected source;

54.1.4. exit from the protected facility, stealing the protected source; and

54.1.5. sabotage;

54.2. an internal attacker's:

54.2.1. unauthorised and unregistered movement within the protected facility;

54.2.2. unauthorised arrival at the protected source;

54.2.3. exit from the protected facility, stealing the protected source; and

54.2.4. sabotage.

55. Passive delaying elements are the following:

55.1. the distance to be overcome by the attacker; and

55.2. engineering barriers, including locks, which must be destroyed to reach the target of the attack.

56. Active delaying elements are the following:

56.1. tear gas;

56.2. foam; and

56.3. sticky materials.

57. Active delaying elements shall be permitted to be used only in Category I protected facilities after co-ordination with the Security Police and the State Labour Inspection.

58. In the inner area of a Category I and II protected facility the operator shall ensure:

58.1. two mutually independent physical protection systems for the switching off of which at least two workers are simultaneously required; and

58.2. two mutually independent ionising radiation detectors connected to the physical protection system which block the entry to the relevant room if one of them registers the exposure dose rate of 200 mSv/h.

59. If the physical protection equipment is activated by removing its key, the lock shall be created in such a way that it is necessary to extract the key at least 2 mm in order to activate the protection system or it shall be ensured that the protection device cannot be activated accidentally or by partial extraction of the key from the lock.

60. The physical protection equipment shall be created in such a way that it also continues to operate after 2500 times of switching on and off.

61. The control equipment, which is operated by entering an individual code by means of the keyboard shall be so created that the control equipment has at least 10 000 code variants.

62. Electronic control equipment shall be utilised in Category I and II protected facilities. It shall be created in such a way that one of the following conditions is met:

62.1. there are at least 50 000 code variants and they are changed according to the accidental number law; or

62.2. for discovery of the code by mechanically checking all the possible combinations, at least 10 days and nights are required.

63. The operator shall ensure that the location of the keys, their combinations of use and the codes of electronic keys are only known to those workers who are permitted to use them.

64. Keys, locks and information regarding the codes of electronic keys shall be located in the principal security guard station of Category I and II protected facilities (where nuclear materials are utilised). They shall only be issued by the security guard worker who has the authorisation to enter the relevant area. Keys, locks and information regarding the codes which enable access to the protected source located in a Category I protected facility shall only be kept with the head of the security guard service or the chief of the security guard shift.

65. The security guard service shall:

65.1. maintain and update information regarding all keys, locks and codes of electronic keys; and

65.2. at least once a year carry out a physical examination of all keys, locks and electronic keys and, if necessary, change them to ensure conformity of the lock quality with the requirements provided for in the physical protection plan of the protected facility.

66. Locks and codes of electronic keys shall be changed without delay if unauthorised entry to the protected facility is detected, by unlocking these locks, as well as in all other

cases when the worker who knows the relevant electronic codes and who has the right to utilise the relevant keys and locks, discontinues employment relations at the relevant facility.

67. If the physical protection equipment:

67.1. is switched on in the protected area before the last worker leaves it, the starting system shall be so created as to ensure switching on of the security equipment with a delay of 15-45 seconds, but this delay period may be adjusted in conformity with the specific nature of the protected area; and

67.2. is switched off in the protected area before the first worker enters thereto, the switching off system shall be so created as to ensure switching on of the alarm equipment with a delay of 5-15 seconds but this delay period may be adjusted in conformity with the specific nature of the protected area.

68. Optical signals, which indicate the state of the protection systems (switched on or switched off), shall be so created that the luminous intensity thereof outside the protected area is less than 0.2 cd.

5. Response System

69. The response system shall be so created that the attacker is arrested:

69.1. before he or she has reached the protected source and has performed sabotage against the protected facility; or

69.2. before he or she has left the protected facility together with the stolen protected source.

70. The elements of the response system shall be the security guard service of the protected facility and the external response forces with which a contract has been entered into in respect of assistance in the case of attack, including the undertaking (company) which has received the special permit (licence) for performance of the security guard activity, or the National Guard.

71. The time consumed by external response forces, as well as the time required for an attack and the route of movement of the attacker shall be assessed and analysed utilising specialised software or taking into account the opinion of security guard system experts.

72. The external response force which requires a shorter time to be prepared for departure, to arrive at the place of attack and to be prepared for the arrest of the attacker than the time required for the attacker to leave the protected facility with the stolen protected source or to perform sabotage shall be chosen.

73. A Category I protected facility where nuclear materials are located shall be guarded by the security guard service assigned by the Ministry of the Interior. In other Category I protected facilities and in Category II protected facilities the operator shall establish an

appropriate security guard service. The person designated to be the head of the security guard service shall be a person:

- 73.1. who has experience in the performance of such tasks; and
- 73.2. whose candidature has been accepted by the Security Police.

74. The security guard of a Category III and IV protected facility shall be ensured by a security guard service or external response forces, which subsequent to an alarm shall perform the measures necessary. A security guard service or external response force shall not be necessary:

- 74.1. at a Category III protected facility if appropriate physical protection is ensured by the detection system and delaying system, except for a facility in which the protected source referred to in Sub-paragraph 13.1 of these Regulations is located; and
- 74.2. at a Category IV protected facility if appropriate physical protection is ensured by the detection system or delaying system.

75. For work in the security guard service at Category I and II protected facilities and Category III protected facilities in which operations with protected sources referred to in Sub-paragraphs 13.1 and 13.2 of these Regulations are carried out, the operator may hire a person who meets the requirements for security guard workers specified in regulatory enactments and who has a security guard certificate. Security guards workers of protected facilities of other categories may be persons without a security guard certificate.

76. The operator shall ensure that the security guard workers of the protected facility:

- 76.1. are trained in radiation safety issues, which are to be observed at the relevant facility;
- 76.2. know the special features of the protected facility;
- 76.3. are provided with the means for performance of the security guard functions and protection against ionising radiation; and
- 76.4. are trained for work with detection and observation devices.

77. At Category I and II protected facilities where nuclear materials are utilised a principal security guard station which shall ensure continual operation of the physical protection system shall be established, and a reserve security guard station, which:

- 77.1. at a Category I protected facility shall fully monitor all operations of the principal security guard station and shall be able to fully take over its functions at any moment; and
- 77.2. at a Category II protected facility shall be utilised for the functioning of the physical protection system if technical problems regarding further operation occur at the principal security guard station or the security guard service must leave it due to an intrusion.

78. At Category I and II protected facilities where no nuclear materials are utilised, as well as at Category III and IV protected facilities a security guard point shall be established. If guarding of the Category III or IV protected facility is ensured by external response forces, the security guard point need not be established.

79. The operator shall ensure that at security guard stations and security guard points:
79.1. there are continual communications with the police and the operator;
79.2. all alarm signals reach the principal and reserve security guard stations; and
79.3. all alarm signals are registered and appropriate measures are performed in good time.

80. Workers of security guard stations may not be involved in the performance of such duties, which are not related to the fulfilment of the physical protection requirements. Each security guard worker shall control only one independent physical protection element. The length of the working shift of security guard station workers may not exceed eight hours.

81. The inside of the security station at a Category I protected facility may not be visible from the security perimeter of the facility. Possible attackers and other security guard stations if such have been established in the relevant facility, shall be visible from the security guard station.

82. The operator shall ensure that at a Category I protected facility where nuclear materials are located the principal and reserve security guard stations have bullet-proof windows, door, walls, ceiling and floor.

83. At Category I and II protected facilities where nuclear materials are located the operator shall ensure continual communications between the principal security guard station and the reserve security station. Communications at Category II protected facilities shall be ensured by at least two mutually independent communication systems, but at Category I protected facilities — by three mutually independent communication systems.

84. The following shall be deemed to be mutually independent communication systems:
84.1. a stationary telephone line irrespective of the fact whether it performs the functions of a telephone or a fax;
84.2. allocated data transmission line with options for the transmission of voice information;
84.3. mobile phone;
84.4. radio communications; and
84.5. special communications equipment if it does not utilise the public communications network.

85. In planning communication systems the operator shall ensure that:
85.1. damage to one system or artificial disturbance of its operation are compensated by another system; and
85.2. at a Category I protected facility in which nuclear materials are located, electronic coding and decoding methods are utilised to prevent overhearing of the

transmitted information and procedures shall be implemented to enable the sender of the information to confirm his or her identity.

86. If the territory of a Category I protected facility is monitored by security guard service workers on a regular basis, the operator shall provide them with portable radio sets which are able to maintain continual communications within the whole territory of the protected facility.

87. At Category I and II protected facilities the operator shall ensure that the emergency alarm meets at least the following requirements:

87.1. workers of the security guard station and security guard service are provided with devices for transmission of the alarm signal;

87.2. workers of the security guard service may easily reach the alarm signal transmission equipment and it is not visible or recognisable to others;

87.3. the alarm signal reaches the principal and reserve security guard station;

87.4. continuous electricity supply from the stationary power network and reserve feeding for emergency cases is ensured;

87.5. the alarm signal, after switching on of the equipment, is transmitted continuously until it is stopped by the security guard worker; and

87.6. the alarm signal transmission equipment is examined at least once a week.

88. In the case of an alarm the security guard service workers of the protected facility or external response forces may not be recalled until the reasons for the alarm have not been verified.

89. The security guard service shall without delay inform the Security Police of any attack on the protected facility. The head of the radiation safety unit or radiation safety and nuclear safety unit or the work supervisor of the relevant facility shall inform the Radiation Safety Centre of the attack.

6. Entry and Exit Control at Category I and II Protected Facilities

90. Entry into Category I and II protected facilities shall only be permitted to persons who have a permit to drive or enter. The permit for driving in shall be granted separately from the permit for entry. The number of entry points in security areas shall be reduced to the minimum required for normal operation of the institution, also providing for the necessary number of exit points for emergency situations. Conditions for the entry into medical treatment institutions, which are Category I and II protected facilities shall be specified by the operator of the relevant facility.

91. The operator may request that a security guard service worker or another person assigned for such work drives the means of transport into the protected facility, but the driver of the relevant means of transport and persons accompanying cargo shall enter the protected facility with a permit for going in.

92. The security guard service shall examine means of transport and any object to ascertain that articles are not brought in which may endanger the safety of the protected facility, as well as to ascertain that the protected source is not removed without authorisation.

93. Protected areas and increased security areas shall be delimited by fences, walls or other continual protection barriers. Barriers shall be guarded and equipment or elements shall be created therein which may determine any attempt to break in or break out. In addition to these elements the barriers shall be illuminated and equipment or elements shall be created therein which hinder the breaking in or out of the attackers through the barrier. The entry of persons shall be examined on the perimeter of each relevant area.

94. At a Category I protected facility, workers, guests and their personal belongings and means of transport shall be examined at the perimeter of the controlled area or increased security area in order to ascertain that no weapons, explosives, radioactive substances, toxic and narcotic substances, alcohol, as well as other objects and materials which may be utilised for sabotage or terrorism or facilitate such activities are carried or introduced into this facility. If the relevant substances or objects are required for the operation of the institution they shall be brought or carried into with special permits, which have been issued by the operator, which he or she has co-ordinated with the head of the security guard service.

95. If metal detectors are utilised in a protected facility the operator shall ensure that:

95.1. the security guard workers are trained to utilise stationary metal detectors and, if necessary, also hand detectors; and

95.2. instructions have been developed how to act if unauthorised metal objects are found.

96. Narcotic substances required for treatment may be carried or brought into a protected facility by emergency medical assistance employees in order to provide first emergency assistance to an injured person who cannot be moved outside the protected facility without danger to his or her life. This provision shall not apply to medical treatment institutions.

97. The operator shall provide the entry points within the security areas with appropriate stationary control equipment. At Category I protected facilities equipment shall be utilised by which radioactive substances and explosives may be discovered, but at Category I and II protected facilities where operations with nuclear materials are carried out equipment shall be utilised by which nuclear materials, radioactive substances, metal objects and explosives may be discovered.

98. No person, including the workers, shall be admitted to Category I and II protected facilities without an identification card. While in the protected facility a person shall bear

the identification card in a visible place on their clothing, but when leaving the facility shall transfer it for storage to the security guard service.

99. In medical treatment institutions identification cards shall not be necessary for patients and persons visiting patients.

100. The operator shall ensure:

- 100.1. an identification card registration system;
- 100.2. the security and registration of identification card blanks; and
- 100.3. a procedure for registration and control of guests and visitors.

101. The head of the security guard service shall account for all issued identification cards and shall examine their state at least once every three months.

102. The registration number of an identification card may only be changed by the operator.

7. Technical Requirements for Protection of Road Transport Vehicles

103. Road transport vehicles, which are utilised for the transportation of radioactive materials or nuclear materials under conditions of exclusive use, shall be secured against unauthorised use thereof by using blocking and automatic emergency alarm devices.

104. The following types of road transport vehicle blocking may be utilised:

- 104.1. blocking of the steering wheel of the vehicle, steering column and its components, steering transmission, steering gear and its components to prevent unauthorised use of the vehicle;
- 104.2. transmission blocking; or
- 104.3. gear lever blocking.

105. A road transport vehicle blocking system shall be so created that:

105.1. the device used to prevent the movement of the vehicle by using its engine power should be switched off if:

- 105.1.1. the engine of the vehicle is switched on;
- 105.1.2. the vehicle starts driving and the steering mechanism is switched on;

105.2. it cannot be quickly unlocked without the appropriate key and without drawing the attention of near-by people — the lock shall require at least 1000 different specially constructed and created combinations for locking, unlocking or alarm system. If within a year the manufacturer of the key and the lock manufactures more than 1000 mechanical keys of the relevant type, a greater number of combinations shall be required. In such case, the minimum number of combinations shall be equal at least to the number of the keys of one type manufactured per year;

105.3. it is sufficiently durable and it cannot be destroyed or disconnected by simple auxiliary instruments — the lock design shall ensure that for turning of the key mechanism the torque of at least 2.45 N*m is required if the correct key is not utilised;

105.4. coding of keys and locks is not visible;

105.5. the combination of figures and letters is not visible on the display if an electronic key system is utilised;

105.6. the safety of the vehicle is not reduced if the blocking system is switched off and the vehicle is utilised by a recognised person; and

105.7. the blocking system prevents accidents if blocking of the vehicle takes place when its engine is switched on, also if the system is activated due to unauthorised use.

106. In transporting radioactive substances located at a Category I protected facility, as well as in transporting protected sources referred to in Sub-paragraphs 12.1, 12.3, 13.1 and 13.4 of these Regulations there shall be no persons in the vehicle who are not directly involved in the transportation of the sources referred to. In transporting radioactive substances located at a Category I protected facility, as well as protected sources referred to in Sub-paragraphs 11.1 and 12.1 of these Regulations, the vehicles shall be provided with a security escort.

8. Closing Provisions

107. Paragraphs 21, 22 and 73 of these Regulations shall come into force on 1 January 2003.

108. Paragraphs 36, 40, 45, 58, 75, 83 and 87 of these Regulations shall come into force on 1 January 2004.

109. Paragraph 97 of these Regulations shall come into force on 1 July 2004.

Prime Minister

A. Bērziņš

Minister for Environmental Protection and Regional Development

V. Makarovs