Republic of Latvia

Cabinet
Regulation No. 671
Adopted 14 November 2017

Mandatory Harmlessness and Quality Requirements for Drinking Water, and the Procedures for Monitoring and Control Thereof

Issued pursuant to
Section 4, Paragraphs two and four and Section 19, Paragraph five of the Law on the Supervision of the Handling of Food

I. General Provisions

1. These Regulations prescribe the mandatory harmlessness and quality requirements for drinking water, procedures by which conformity of drinking water to requirements of these Regulations is evaluated, as well as procedures for the monitoring and control of drinking water.

2. This Regulation shall apply to surface and ground water that either in the original state thereof or after special treatment is intended for human consumption, food preparation or household use, trade, and also for use in the food industry – for treatment, processing, preservation – regardless of the manner of supply – by water pipelines, tankers or in containers (hereinafter – drinking water).

3. These Regulations shall not apply to:
3.1. natural mineral water which complies with the requirements of the laws and regulations regarding natural mineral water and spring water;
3.2. mineral water classified as a medicinal product by the State Agency of Medicines in accordance with the laws and regulations regarding the procedures for registering medicinal products;
3.3. drinking water obtained from separate places of production or supply which are used by less than 50 persons or the production amount of which does not exceed 10 cubic metres per 24 hours if drinking water is not used in the handling of food or water supply of public buildings or is not supplied by providing water management services in conformity with the Law on Water Management Services;
3.4. drinking water which is used in such a way that does not directly or indirectly cause a threat to human health and an opinion of the Health Inspectorate (hereinafter – the Inspectorate) has been received thereon.

4. The responsibility of the water management service provider who owns water supply infrastructure and who supplies drinking water to residential places (hereinafter – the water supplier), and the food establishment for internal water pipelines of the building is laid down in the laws and regulations regarding construction standards and also in the Law on Water Management Services.

5. The water supply system shall comply with the requirements laid down in the laws and regulations regarding construction standards. Any action or measure, including operation,

repair or change of water supply facilities, must not reduce the quality of drinking water or increase the contamination of water supply points, causing a threat to human health.

6. Water supply systems shall be washed, cleaned and disinfected prior to commencement of operation and after an emergency repair, whereas water supply facilities shall be washed, cleaned and disinfected preventatively at least twice a year. Food establishments shall disinfect their facilities in conformity with the self-control programme of the establishment.

7. Compliance with these Regulations shall be controlled by:

7.1. the Food and Veterinary Service (hereinafter – the Service) – by examining drinking water used in food establishments, except for water supply establishments;

7.2. the Inspectorate – public drinking water supply objects from the water supply points to the consumer.

II. Mandatory Harmlessness and Quality Requirements for Drinking Water and Procedures by which Conformity of Drinking Water to Specified Requirements are Evaluated

8. Non-packaged drinking water at the following points must comply with the requirements laid down in Annex 1 of this Regulation:

8.1. at the point at which drinking water emerges from a tap, if drinking water for human consumption is supplied by water pipelines or is used for the needs of the society at educational, medical treatment and social care institutions;

8.2. at the external network of water supply and the distribution system of the water supplier;

8.3. at the point at which drinking water emerges from a tanker if it is supplied in a tanker;

8.4. at the point where drinking water is filled in bottles or other containers in a food establishment, if drinking water is packaged;

8.5. at the point where drinking water is used in a food establishment.

9. The supplier of drinking water shall inform the consumer on the following:

9.1. the quality and harmlessness of the supplied drinking water and also the established discrepancies;

9.2. the corrective measures for ensuring quality and harmlessness of drinking water;

9.3. possible corrective measure to be taken by the consumer himself or herself.

10. The supplier of drinking water may not inform the consumer regarding non-compliance of drinking water with the quality and harmlessness requirements if the control authorities have recognised such non-compliance as minor and harmless to human health.

11. If upon establishing microbiological indicators in drinking water (Annex 1 to this Regulation), *Escherichia coli* or enterococci are found in the sample of water, the supplier of drinking water shall immediately repeat examination of drinking water.

12. Upon establishing non-compliance of drinking water with the requirements of this Regulation or changes in organoleptic indicators, corrective measures shall be implemented in order to eliminate the non-compliance or the potential threat to human health. Depending on the place where non-compliance was established, corrective measures shall be implemented as follows:

12.1. water supplier who is responsible for the provided service up to a proprietary border;

12.2. owner, possessor of the water pipeline or food establishment which owns the internal water pipeline that ensures water supply from the infrastructure of the provider of public utilities up to the drinking water taps of the consumer or food establishment;

12.3. the owner, possessor of the water pipeline or food establishment in the cases referred to in Sub-paragraphs 12.1 and 12.2 of this Regulation, if drinking water is obtained in underground water abstraction site and sold or used otherwise in an economic activity or supplied to public buildings and structures.

13. If the water supply system is disinfected, the water supplier shall control the indicators laid down in Sub-paragraphs 3.4 and 3.16 of Annex 1 to this Regulation, efficiency of the disinfection, presence of residues of chemical reagents used in disinfection by coordinating the particular inspection programme with the Inspectorate.

III. Development and Implementation of a Monitoring Programme for Drinking Water

14. Types of the monitoring of drinking water:

14.1. regular monitoring in order to obtain information on microbiological, organoleptic and physical and chemical indicators in conformity with Paragraphs 1 and 3 of Annex 2 to this Regulation, and also on the efficiency of the treatment of drinking water;

14.2. audit monitoring in order to determine whether drinking water complies with all quality and harmlessness indicators laid down in Clause 2 of Annex 2 to this Regulation by complying with the minimum frequency of sampling and analysis of water laid down in Paragraph 3 of Annex 2 to this Regulation;

14.3. monitoring of the indicators of radioactive substances in order to obtain information on concentration of radioactive substances in drinking water in accordance with Annex 3 to this Regulation.

15. The monitoring of the indicators of microbiological, chemical and physical substances, including radioactive substances, in drinking water (hereinafter – the monitoring) shall be implemented in accordance with Annexes 2 and 3 to this Regulation by conducting regular laboratory examinations of drinking water in order to obtain information on the compliance thereof with the harmlessness and quality requirements referred to in this Regulation, and also on changes in drinking water.

16. Every year by 1 January drinking water suppliers and food establishments shall develop a monitoring programme, coordinate it with the Inspectorate and implement the monitoring on the same basis. This requirement does not apply to food establishments where drinking water is supplied via a centralised water supply system. The Inspectorate shall maintain information on coordinated monitoring programmes.

17. The results of risk assessment may be taken into account upon developing a monitoring programme.

18. When coordinating the monitoring programme for drinking water referred to in Paragraph 16 of this Regulation, the Inspectorate shall take into account the results of risk assessment if such are available and have been obtained by using the template referred to in Paragraph 35 of this Regulation.

19. Such water testing results that have been obtained as a result of self-control conducted by water suppliers and food establishments by examining certain water samples in a laboratory referred to in Paragraph 51 of this Regulation and also by inspecting the functionality and technical maintenance status documentation of the water supply facilities, the surrounding

area of water abstraction sites, results of inspecting water abstraction, treatment, storage and supply infrastructure may be also included in the monitoring programme.

20. [1 September 2018 / See Paragraph 83]

21. Goals of the monitoring of drinking water:

21.1. to verify efficacy of the introduced measures in order to control the potential threat to human health in the entire water supply chain from water catchment until abstraction, treatment, storage and supply, and to confirm that drinking water at the compliance sites referred to in Paragraph 8 of this Regulation is wholesome and clean;

21.2. to provide information on the compliance of drinking water with the indicator values laid down in Annex 1 to this Regulation;

21.3. to promote the clarification of the most appropriate means for the purpose of minimising the threat to human life.

22. The obligation to organise regular monitoring and audit monitoring shall not apply to:

22.1. small trade enterprises that do not produce food and are not involved in the preparation or treatment thereof by coming into direct contact with drinking water;

22.2. primary manufacturing establishments of products of plant origin that do not use drinking water in the treatment of products;

22.3. small trade enterprises that use drinking water only for preparing hot beverages, e.g., coffee, tea and that is supplied via a centralised water supply system.

23. Audit monitoring shall not be conducted at food establishments, but regular monitoring shall be conducted at least once every two years without taking into account the minimum frequency of sampling and analysis of water laid down in Paragraph 3 of Annex 2 to this Regulation, provided that the quality of drinking water cannot affect the harmlessness, wholesomeness of the foodstuff and consumer health:

23.1. if the relevant establishment in the field of the handling of food is involved in:

23.1.1. packaging honey;

23.1.2. treatment, processing and packaging cereals;

23.1.3. production of bread and flour products;

23.1.4. primary manufacturing of the products of plant origin if drinking water is used in the treatment of products;

23.1.5. production of fatty substances;

23.2. if drinking water is not used as a component of food;

23.3. if drinking water is supplied to a food establishment via a centralised water supply system, except for small trade enterprises referred to in Sub-paragraph 22.3 of this Regulation.

24. A regular monitoring and monitoring of the indicators of radioactive substances in drinking water supplied to inhabitants by water pipelines shall be performed by the water supplier, whereas an audit monitoring – by the Inspectorate. The regular monitoring, audit monitoring and monitoring of the indicators of radioactive substances at food establishments shall be organised by the owner or the manager of the establishment.

25. The Inspectorate shall implement the audit monitoring referred to in Paragraph 24 of this Regulation by funds from the State budget also selecting establishments, institutions and premises intended for sampling.

26. The samples of drinking water for the purpose of the monitoring and control shall be taken:

26.1. in the premises or institution from a tap at the place where the consumer uses drinking water if water is supplied by water pipelines;

26.2. at the place from the tap where drinking water is used in the food establishment;

26.3. at the place from the tap where drinking water is filled in bottles or other containers if drinking water is packaged;

26.4. at the place where drinking water emerges from a tanker if water is supplied in a tanker for long or short periods;

26.5. at the place from the tap where drinking water is used for the needs of the society at educational, medical treatment and social care institutions.

27. If drinking water at the water sampling point referred to in Sub-paragraphs 26.1, 26.4, and 26.5 of this Regulation does not comply with the requirements, the water supplier shall take the sample of drinking water at the external network of water supply and the distribution system in order to identify the place of non-compliance. The water suppliers shall ensure a possibility to take the samples of drinking water up to the accounting unit of water commercial accounting meter on the inlet into a building or a group of buildings.

28. Upon request of the food establishment, the water supplier shall inform it on testing results in the external network of water supply and the distribution system.

29. In the case referred to in Paragraph 24 of this Regulation the costs of the regular monitoring shall be covered by the water supplier. The costs of the monitoring of water samples taken at the places indicated in Sub-paragraphs 26.2 and 26.3 of this Regulation shall be covered by the food establishment, whereas the costs of the regular monitoring and monitoring of the indicators of radioactive substances in water samples taken at the places indicated in Sub-paragraphs 26.1, 26.4, and 26.5 of this Regulation – by the water supplier.

30. If, on the basis of an application of a person, non-compliance of drinking water with the harmlessness requirements laid down in Annexes 1 and 3 to this Regulation is detected, the costs related to the testing of water samples shall be covered by the water supplier or the owner of the internal water supply system of a building by conducting the examinations laid down in Paragraph 29 of this Regulation.

IV. Use of Risk Assessment in the Development of the Monitoring Programme for Drinking Water

31. The risk assessment of drinking water shall be voluntary. If the risk assessment has been conducted, deviations from the indicators laid down in Annex 1 to this Regulation and sampling frequency referred to in Annex 2 to this Regulation are possible in accordance with Paragraphs 39 and 40 of this Regulation.

32. Standard LVS EN 15975-2:2013 “Security of drinking water supply – Guidelines for risk and crisis management – Part 2: Risk management” shall be used in the risk assessment of drinking water.

33. The results of the monitoring programme of the water state may be used in the risk assessment in accordance with the laws and regulations regarding the requirements for the monitoring of surface water, groundwater and protection zones and the development of monitoring programmes.

34. The Institute of Food Safety, Animal Health and Environment "BIOR" (hereinafter – the Institute "BIOR") shall be the competent institution in the risk assessment of drinking water in drinking water supply systems.

35. The risk assessment template for drinking water available on the website of the Institute "BIOR" shall be used for obtaining the risk assessment of drinking water.

36. The risk assessment shall be implemented by the water supplier and food establishment or upon request thereof by the Institute "BIOR" in accordance with the laws and regulations regarding the price list for the activities carried out by the Institute "BIOR" within the framework of State administration tasks.

37. The Inspectorate may conduct the risk assessment in order to formulate an audit monitoring programme for drinking water referred to in Paragraph 25 of this Regulation.

38. Upon the request of the Institute "BIOR", the Inspectorate shall provide the information necessary for the risk assessment.

39. The Inspection, on the basis of the results of the risk assessment, may extend the list of indicators provided in Paragraphs 1 and 2 of Annex 2 to this Regulation and may increase the frequency of sampling and analyses laid down in Paragraph 3 of Annex 2 to this Regulation in the monitoring programme if:

39.1. it is not sufficient with the list of indicators or the frequency of analyses laid down in Annex 2 to this Regulation to examine the compliance of drinking water with the requirements of this Regulation;

39.2. in the case of suspected occurrence of a threat to human health an additional monitoring is required in order to control the indicators not included in Paragraphs 1 and 2 of Annex 2 to this Regulation.

40. The Inspectorate, on the basis of the results of risk assessment, may reduce the list of indicators referred to in Paragraphs 1 and 2 of Annex 2 to this Regulation and reduce the sampling frequency indicated in Paragraph 3 of Annex 2 to this Regulation in the monitoring programme, except with regard to *Escherichia coli*, if the following conditions are fulfilled:

40.1. the frequency of sampling and analyses has been laid down in conjunction with the origin of the indicator, and also the concentration variability and long-term tendency;

40.2. in order to reduce the minimum sampling frequency of the relevant indicator, the results thereof with regard to samples that have been taken on a regular basis at least for a period of three years at all representative sampling points of the entire supply zone do not exceed 60 per cent of the maximally permissible value laid down in Annex 1 to this Regulation;

40.3. the results of any indicator subject to the monitoring to be excluded from the list with regard to samples that have been taken on a regular basis at least for a period of three years at all representative points of the entire supply zone do not exceed 30 per cent of the maximally permissible value laid down in Annex 1 to this Regulation;

40.4. the exclusion of the relevant indicator from the list of indicators subject to the monitoring is justified with the result that has been obtained in the risk assessment that is based upon the monitoring results at water abstraction sites and confirming that human health is safe against any adverse effects caused by the pollution of drinking water;

40.5. insignificant likelihood is confirmed in the risk assessment regarding the impact of a reasonably foreseeable factor on deterioration in the quality of drinking water.

41. The risk assessment of drinking water shall be reviewed on a regular basis and updated at least once every five years.

V. Control of the Implementation of the Monitoring Programmes for Drinking Water

42. When implementing a monitoring programme, a specialist of the Inspectorate and the State limited liability company "Latvian Environment, Geology and Meteorology Centre" (hereinafter – the Centre), presenting his or her service identification, is entitled to visit any water supplier and food establishment.

43. The water supplier shall notify the Inspectorate regarding the results of regular monitoring. The Inspectorate shall inform the water supplier regarding the results of audio monitoring implemented by the State.

44. The food establishment, except for the establishments where drinking water is supplied via a public water supply system, shall inform the Inspectorate and the relevant territorial structural unit of the Service on the monitoring results.

45. If non-compliance of drinking water with the requirements of this Regulation is detected during the monitoring and:

45.1. the monitoring has been implemented by the Inspectorate, it shall notify the relevant territorial structural unit of the Service thereon in writing within one week;

45.2. the monitoring has been implemented by the water supplier, it shall notify the Inspectorate thereon in writing within one week;

45.3. the monitoring has been implemented by the food establishment, it shall notify the Inspectorate and the relevant territorial structural unit of the Service thereon in writing within one week;

45.4. the monitoring of the indicators of radioactive substances has been implemented by the Latvian Environment, Geology and Meteorology Centre, it shall notify the Inspectorate, the Service and the Radiation Safety Centre of the State Environmental Service (hereinafter – the Radiation Safety Centre) thereon within one week.

46. If pollution which poses a potential threat to human health is detected in drinking water, the implementer of the monitoring shall inform also the other authorities referred to in Paragraph 45 of this Regulation within 24 hours after detecting the non-compliance.

47. The Inspectorate shall collect the monitoring results, draw up a report once a year, publish it on its website and inform thereon the Ministry of Health, the Ministry of Environmental Protection and Regional Development and the Service.

48. Once every three years (hereinafter – the reporting period) the Inspectorate shall draw up a report on the quality and harmlessness of drinking water and shall publish it on its website. The report shall include information on drinking water supplied on average in the amount of 1000 cubic metres per day and on drinking water supplied to more than 5000 persons, an analysis of the type of objects examined and the quantity of water samples inspected by specifying how many of them fail to comply with the mandatory harmlessness and quality requirements, and also on corrective measures, the results thereof and special rules and maximum values applied in conformity with Paragraphs 68.2 and 79 of this Regulation. The report on the quality and harmlessness of drinking water shall be provided by the Inspectorate to consumers in the period of the next year after the end of the current reporting period.

49. The Inspectorate shall, within two months after publication of the information referred to in Paragraph 48 of this Regulation, send the report to the European Commission, and also the Ministry of Agriculture, the Ministry of Health, and the Ministry of Environmental Protection and Regional Development.

50. The Inspectorate shall ensure accessibility of such drinking water monitoring data that are necessary for the implementation of State functions in accordance with the Law on State Information Systems.

51. A laboratory test of drinking water shall be performed in a laboratory, which has been accredited by the national accreditation institution in accordance with the laws and regulations regarding the assessment of conformity assessment institutions, accreditation and supervision or in another laboratory accredited in the Member State of the European Union. In audit monitoring which does not apply to food establishments a laboratory test of drinking water shall be performed by the Institute "BIOR".

52. The methods of analysis for drinking water applied in the monitoring process and proving conformity with the requirements of this Regulation shall be validated by accredited laboratories.

53. Drinking water shall be inspected by applying the methods indicated in Annex 4 to this Regulation taking into account that:

53.1. the laboratory has the right to apply methods not referred to in Paragraph 1 of Annex 4 to this Regulation, if the results obtained are comparable to the results obtained by the testing methods referred to in Annex 4 to this Regulation, and if equal limit of determination of results, precision and reliability thereof can be reached by other testing method;

53.2. any method of analysis referred to in Paragraph 2 of Annex 4 to this Regulation may be applied to determine indicators, if the relevant method complies with the requirements laid down in Annex 4 to this Regulation.

54. Sampling and transportation of drinking water to the laboratory shall be performed in accordance with the standard LVS EN ISO 5667-3:2013 "Quality of water – Sampling – Part 3: Guidance on the preservation and handling of samples"; and LVS ISO 5667-5:2007 "Water quality. Sampling. Part 5. Guidance on sampling of drinking water from treatment works and piped distribution systems".

55. If non-conformity of drinking water to the requirements laid down in this Regulation or parameters other than included in Annex 1 to this Regulation are established or in the case of suspected possible presence of pathogenic micro-organisms and toxic substances not referred to in this Regulation in such amount that poses a threat to human health:

55.1. the supplier of drinking water, manager of a public building and multi-apartment buildings shall immediately inform the Inspectorate in writing;

55.2. the Inspectorate may entrust the supplier of drinking water, manager of a public building and multi-apartment buildings with the task to conduct additional laboratory tests of cold and hot water and the task to implement corrective measures and also disinfection of the equipment and pipelines of the internal water supply system;

55.3. the supplier of drinking water, manager of a public building and multi-apartment buildings shall ensure the inspection of drinking water and shall implement corrective measures which are coordinated with the Inspectorate in order to ensure the harmlessness of drinking water, e.g., by using the relevant treatment techniques;

55.4. the Inspectorate and the Service shall immediately decide upon further action by assessing the potential threat to human health depending on the exceeded indicators and the maximum levels of exceeding the values;

55.5. the Inspectorate and the Service have the right to restrict or to prohibit the supply or use of drinking water in accordance with the Epidemiological Safety Law and the Law on the Supervision of the Handling of Food and also to impose an administrative penalty;

55.6. the Service or the water supplier, if necessary, shall consult with the Inspectorate in order to assess their potential threat to human health that may be posed by the restriction or prohibition to supply or use drinking water;

55.7. the Inspectorate shall ensure the notification of consumers regarding the restriction or prohibition to supply or to use drinking water, whereas the Service – regarding the prohibition to distribute packaged drinking water. The Inspectorate shall prepare informative materials in order to inform the society regarding the harmlessness and quality of drinking water, measures in cases of contamination, as well as consult consumers, food establishments, water suppliers and owners of water pipelines regarding possible corrective action for the improvement of the quality of drinking water or measures to be taken for the rectification of the non-conformity of drinking water with the requirements of this Regulation. The Inspectorate shall control the compliance with Paragraphs 9 and 80 of this Regulation.

VI. Monitoring of the Indicators of Radioactive Substances

56. The monitoring of the indicators of radioactive substances, including in waters subject to the monitoring of the indicators of radioactive substances referred to in Annex 3 to this Regulation, shall be ensured by the Latvian Environment, Geology and Meteorology Centre in conformity with the environmental monitoring programme elaborated in accordance with the requirements of the Environmental Protection Law.

57. The Latvian Environment, Geology and Meteorology Centre is entitled to refuse to implement the monitoring of the indicators of radioactive substances if there is sufficient information on the fact that such concentration of radioactive substances which could exceed the value of the respective indicator referred to in Annex 3 to this Regulation is not possible in the relevant geographic territory.

58. The water supplier or food establishment, when starting the use of a new water supply source, shall perform the control of the indicators of radioactive substances referred to in Annex 3 to this Regulation.

59. The Inspectorate jointly with the Radiation Safety Centre shall coordinate radioactive level indicators and the places where the monitoring of indicators is necessary.

60. If the Latvian Environment, Geology and Meteorology Centre by implementing the monitoring of the indicators of radioactive substances has detected non-conformity of the indicators of radioactive substances with the requirements of this Regulation, including after processing drinking water to reduce the level of radionuclides, the water supplier or the food establishment shall include the control of the indicators of radioactive substances in the monitoring programme and coordinate it with the Inspectorate in accordance with Paragraph 16 of this Regulation.

61. The results of the monitoring of the indicators of radioactive substances:

61.1. shall be sent to the Inspectorate by the Latvian Environment, Geology and Meteorology Centre;

61.2. in the case referred to in Paragraph 60 of this Regulation – shall be sent electronically by the water supplier or the food establishment to the Inspectorate and the Latvian Environment, Geology and Meteorology Centre that respectively shall include the indicators of radioactive substances in the monitoring results.

62. If the value of radioactive substances referred to in Paragraph 1 of Annex 3 to this Regulation is exceeded, the Inspectorate in cooperation with the Radiation Safety Centre shall assess whether radioactive substances in drinking water pose any threats to human health due to which it is necessary to take measures, and also, if necessary, shall organise corrective measures in order to improve the quality of water and to ensure such quality level which complies with the requirements of human health protection from the point of view of radiation safety. Corrective measures shall be implemented without any detailed assessment if radon concentrations exceed 1000 Bq/l.

63. The Inspectorate shall determine the frequency of radioactive substance controls for drinking water supplied temporarily in tankers by coordinating such action with the Radiation Safety Centre.

64. If over a period of one year the value of radon is below the level laid down in Paragraph 1 of Annex 3 to this Regulation, there is the right not to conduct the monitoring of the indicators of radioactive substances, if the Inspectorate has been informed thereon. Where it is known that it is possible to exceed the indicative dose (ID) of 0.1 mSv annually or the value of tritium indicator of 100 Bq/l in water supply, the water supplier or the food establishment shall also implement the monitoring of the indicators of these radioactive substances in conformity with the indicated minimum frequency of sampling and analysis of water.

65. If the value of the indicators of radioactive substances is exceeded in the sample to be inspected, the Inspectorate by coordinating with the Radiation Safety Centre shall determine further sampling frequency in order to ensure that the values to be measured would characterise the average activity concentration throughout the entire year. These measurements shall be ensured by the water supplier or food establishment.

66. If drinking water is processed for the purpose of reducing the level of radionuclides,the Inspectorate by coordinating with the Radiation Safety Centre shall determine further monitoring frequency to control treatment efficiency. These measurements shall be ensured by the water supplier or food establishment.

67. If non-conformity of the indicators of radioactive substances with the values referred to in Paragraph 1 of Annex 3 to this Regulation is detected, the Radiation Safety Centre shall notify the Inspectorate and the Service regarding the potential threat to human health and further action to ensure the protection of people against ionising radiation. The Inspectorate and the Service shall ensure that inhabitants would be notified about the threat and implemented corrective measures and also about all precautionary measures to be observed in order to ensure the protection of people against ionising radiation.

VII. Determination of Reduced Harmlessness and Quality Requirements for Drinking Water

68. If drinking water in the relevant geographic territory does not comply with the requirements of this Regulation, but it does not cause a threat to the health of consumers and the abovementioned non-compliance cannot be rectified within 30 days, and also the supply of drinking water cannot be ensured in any other way, the head of the Inspectorate may

determine reduced harmlessness or quality requirements (hereinafter – the special rules) for a period not exceeding three years in the following cases:

68.1. drinking water does not comply with the value of chemical indicators laid down in Paragraph 2 of Annex 1 to this Regulation or the value of additional indicators included in Annex 1 to this Regulation;

68.2. drinking water does not comply with the value of control indicators laid down in Paragraph 3 of Annex 1 to this Regulation;

68.3. drinking water does not comply with the value of the indicators of radioactive substances referred to in Paragraph 1 of Annex 3 to this Regulation and the value of radon indicator does not exceed 1000 Bq/l.

69. Special rules shall not be determined for the packaged drinking water.

70. The application of the special rules referred to in Sub-paragraphs 68.1 and 68.3 of this Regulation may be extended for three years if the Inspectorate submits to the European Commission a report and justification of the decision regarding the necessity of the second extension. In an exceptional case the application of the special rules may be extended repeatedly for another three years if the Inspectorate submits to the European Commission a report and justification of the decision regarding the necessity of the third extension. The Inspectorate shall, within two months, notify the European Commission regarding each water supplier subject to the special rules (Sub-paragraphs 68.1 and 68.3 of this Regulation) and that supplies water in the amount of 1000 square metres per day on average or supplies it to more than 5000 persons. Information referred to in Paragraph 73 of this Regulation shall be appended to the report.

71. The application of the special rules referred to in Sub-paragraph 68.2 of this Regulation may be extended by the Inspectorate for three years, in an exceptional case the relevant period shall be extended repeatedly. When deciding on the extension of the period when the special rules are applied, the Inspectorate shall assess whether the corrective measures for the purpose of preventing non-conformity of water with the requirements of this Regulation were implemented in the previous period. The total application period of the special rules must not exceed nine years.

72. The application for the determination of the special rules shall be submitted to the Inspectorate by the food establishment, the water supplier, local government or another applicant (hereinafter – the applicant). The Inspectorate shall review the application and determine special rules by issuing an opinion on the threat to human health detected in the water supply system and the corrective measures to be implemented.

73. The applicant shall indicate the following information in the application for the determination of special rules for drinking water:

73.1. the grounds for the determination of special rules and proposals regarding the maximum permitted special rules and the monitoring thereof during the intended time period;

73.2. the indicators of the results of previous monitoring and control regarding the indicators for which special rules are intended to be applied. If the application is submitted for the extension of the time period for the laid down special rules, it is also necessary to indicate the information on the corrective measures implemented in the previous period when the special rules were applied;

73.3. the territory where the special rules are to be applied, and the number of inhabitants in such territory;

73.4. the amount of drinking water supplied within a twenty-four hour period;

73.5. the potential impact of the determination of the special rules on food production;

73.6. the summary of the plan of corrective measures to ensure water quality and harmlessness containing information on:

73.6.1. the corrective measures aimed at ensuring water quality and harmlessness, based on the results of the inspection of the water supplier regarding the determination of the place of non-conformity and testing results of drinking water at the end of the tap, in the external water supply network and at the water abstraction site in conformity with the indicators subject to the application of the special rules. The inspection shall be organised by the water supplier. The water supplier shall be responsible for the accuracy and veracity of the information provided;

73.6.2. the projects developed for the arrangement of the water supply system;

73.6.3. the financial means planned for project implementation;

73.6.4. the measures planned within the scope of the project by indicating the schedule and particular deadlines for the implementation of measures;

73.6.5. the review or updating of the corrective action plan. The corrective action plan shall be reviewed, if necessary, at least once every year;

73.7. the time period throughout which it is necessary to apply the special rules.

74. The Inspectorate shall assess the threat to human health detected in the water supply system of the water supplier and the non-conformity thereof with water quality requirements. The Inspectorate shall collect information on the rectification of non-conformity and the implemented corrective measures and shall include it in the annual report and the report of a three-year period on the quality of drinking water and supervision thereof.

75. If the indicators of radioactive substances referred to in Annex 3 to this Regulation are exceeded, the Inspectorate in cooperation with the Radiation Safety Centre shall assess the potential threat of radioactive substances to human health.

76. The applicant, within one month prior to the end of the period of the application of the special rules referred to in Sub-paragraphs 68.1, 68.2, and 68.3 of this Regulation shall submit to the Inspectorate the information on the implemented corrective measures. If the corrective measures are inappropriate and the conformity of drinking water with the requirements of this Regulation is not ensured, the applicant shall submit explanations to the Inspectorate. In conformity with Paragraph 12 of this Regulation, depending on the place where non-conformity is detected, the water supplier, the owner of a pipeline and the food establishment shall implement the relevant corrective measures as soon as possible in order to prevent the non-conformity of water with the requirements of this Regulation.

77. If special rules are determined, the Inspectorate may increase the frequency of controls and monitoring and also may additionally determine the indicators of routine monitoring by including them in the opinion referred to in Paragraph 72 of this Regulation and the monitoring programme.

78. Upon request of the Inspectorate, the Institute BIOR shall assess the possible impact of the determination of special rules on food production.

79. If the Inspectorate has acknowledged the non-conformity to the requirements of Paragraph 2 of Annex 1 to this Regulation or additional indicators not contained in Annex 1 to this Regulation as insignificant and harmless to human health and it is possible o prevent the non-conformity by applying corrective measures within 30 days following the detection thereof, the Inspectorate shall apply the maximum permissible values of the relevant indicator (hereinafter – the maximum values) for the respective period of time and determine appropriate corrective measures. If the non-conformity to the values of the abovementioned

indicators for the past 12 months has lasted longer than 30 days, the requirements laid down in Paragraph 70 of this Regulation shall be applied.

80. If in accordance with Paragraphs 68 and 79 of this Regulation special rules or maximum values are determined for drinking water, the applicant shall inform consumers on the quality and harmlessness of drinking water, the indicators subject to the application of special rules or maximum values and the time period for the granting thereof, as well as a reference to the law or regulation governing thereof by including in the information warnings to particular groups of inhabitants if these special rules or maximum values may cause health disorders. The information shall be immediately posted on the website of the water supplier or the relevant local government, local press publications and be displayed at building management establishments.

VIII. Closing Provisions

81. Cabinet Regulation No. 235 of 29 April 2003, Mandatory Harmlessness and Quality Requirements for Drinking Water, and the Procedures for Monitoring and Control Thereof (*Latvijas Vēstnesis*, 2003, No. 81; 2005, No. 197; 2006, No. 4; 2007, No. 54; 2008, No. 79; 2009, No. 121, No. 157; 2010, No. 101; 2012, No. 66; 2015, No. 207) is repealed.

82. By 31 December 2019, the performance criteria for drinking water indicators laid down in Sub-paragraph 2.1 of Annex 4 to this Regulation may be replaced by the performance criteria of indicators laid down in Sub-paragraph 2.2 of Annex 4 to this Regulation.

83. Paragraph 20 and Note 4 of Annex 2 to this Regulation shall be in force by 1 September 2018.

84. Paragraphs 17 and 18, Chapter IV and Note 7 of Annex 2 to this Regulation shall come into force on 1 September 2018.

Informative Reference to European Union Directives

This Regulation contains legal norms arising from:

1) Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption;

2) Council Directive 2013/51/EURATOM of 22 October 2013 laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption;

3) Commission Directive (EU) 2015/1787 of 6 October 2015 amending Annexes II and III to Council Directive 98/83/EC on the quality of water intended for human consumption.

Prime Minister Māris Kučinskis

Minister for Agriculture Jānis Dūklavs

Annex 1
Cabinet Regulation No. 671
14 November 2017

Mandatory Harmlessness and Quality Requirements for Drinking Water

1. Microbiological Parameters

No.	Indicator	Maximum Permissible Value
1.1.	For pipeline water:	
1.1.1.	*Escherichia coli*	0/100 ml
1.2.1.	enterococci	0/100 ml
1.2.	For water filled in bottles or other containers for marketing purposes	
1.2.1.	*Escherichia coli*	0/250 ml
1.2.2.	enterococci	0/250 ml
1.2.3.	*Pseudomonas aeruginosa*	0/250 ml
1.2.4.	colony count micro-organisms (CFU) 22°C	100/ml
1.2.5.	colony count micro-organisms (CFU) 37°C	20/ml

2. Chemical Parameters

No.	Indicator	Maximum Permissible Value	Notes
2.1.	antimony	5.0 µg/l	
2.2.	arsenic	10 µg/l	
2.3.	benzene	1.0 µg/l	
2.4.	benzo(a)pyrene	0.010 µg/l	
2.5.	boron	1.0 mg/l	
2.6.	bromates	10 µg/l	
2.7.	cadmium	5.0 µg/l	
2.8.	chromium	50 µg/l	
2.9.	copper	2.0 mg/l	Average values of samples from weekly water supply shall be determined. Maximum values of parameters shall also be registered.
2.10.	cyanides	50 µg/l	
2.11.	1,2-dichloroethane	3.0 µg/l	
2.12.	fluorides	1.5 mg/l	
2.13.	lead	10 µg/l	Average values of samples from weekly water supply shall be determined. Maximum values of parameters shall

			also be registered.
2.14.	mercury	1.0 µg/l	
2.15.	nickel	20 µg/l	Average values of samples from weekly water supply shall be determined. Maximum values of parameters shall also be registered.
2.16.	nitrates	50 mg/l	The content of nitrites in water may not exceed 0.10 mg/l if nitrates (mg/l)/50 + nitrites (mg/l)/3 ≥1
2.17.	nitrites	0.50 mg/l	The content of nitrites in water may not exceed 0.10 mg/l if nitrates (mg/l)/50 + nitrites (mg/l)/3 ≥ 1
2.18.	pesticides (separately)	0.10 µg/l	The following plant protection agents shall be treated as a group of pesticides (2.18 and 2.19): a) organic insecticides, organic herbicides; b) organic fungicides, organic nematocides; c) organic acaricides, organic algicides; d) organic rodenticides, organic slimicides; e) related products (growth regulators) and metabolites, and degradation products of such substances. For water, only those pesticides shall be determined which are likely to be present in the water. If the presence of aldrin, dieldrin, heptachlor or heptachlor epoxide is detected in water, the parametric value shall be 0.030 µg/l. Pesticides (2.19) the sum of all individual pesticides analysed has been detected
2.19.	pesticides (total)	0.50 µg/l	

2.20.	polycyclic aromatic hydrocarbons	0.10 µg/l	Sum of concentration of components detected.
			Polycyclic aromatic hydrocarbons are:
			a) benzo(b)fluoranthrene;
			b) benzo(k)fluoranthrene;
			c) benzo(ghi)perylene; and
			d) indeno(1,2,3-cd)pyrene.

2.21.	selenium	10 µg/l	
2.22.	tetrachloroethene and trichloroethene	10 µg/l	Sum of concentrations of substances determined.
2.23.	trihalomethanes (total)	100 µg/l	Sum of concentrations of substances determined.
2.24.	acrylamide	0.10 µg/l	Determined as monomer content in water.

2.25.	epichlorohydrin	0.10 µg/l	Determined as monomer content in water.
2.26.	vinyl chloride	0.50 µg/l	Determined as monomer content in water.

3. Control parameters for monitoring of drinking water and corrective action

No.	Indicator	Maximum Permissible Value	Notes
3.1.	aluminium	0.2 mg/l	
3.2.	ammonium	0.50 mg/l	
3.3.	chlorides	250 mg/l	Water may not be corrosive
3.4.	*Clostridium perfringens* (including spores)	0/100 ml	This parameter shall not be measures unless the point of water origin is influenced by surface waters. If there is non-compliance with the indicator, the supply must be investigated in order to ensure that there is no harm to human health caused by the presence of micro-organisms, for example, cryptosporidia. The results of such studies must be included in the reports provided by the Health Inspectorate
3.5.	colour	acceptable to consumers and without any substantial changes	
3.6.	conductivity	2500 µS cm^{-1} at 20 °C temperature	Water may not be corrosive
3.7.	hydrogen ion concentration	6.5–9.5 pH units	Water may not be corrosive. For still water filled in bottles or containers, the minimum value may be reduced up to 4.5 units. For water filled in bottles or containers and naturally rich in artificially enriched with carbon dioxide, the minimum value may be lower.
3.8.	iron	0.2 mg/l	
3.9.	manganese	0.05 mg/l	
3.10.	odour	acceptable to consumers and without any substantial changes	
3.11.	oxidizability ($KMnO_4$)	5.0 mg/l O_2	This parameter shall not be measured if TOC is measured
3.12.	sulphates	250 mg/l	Water may not be corrosive

3.13.	sodium	200 mg/l	
3.14.	taste	acceptable to consumers and without any substantial changes	
3.15.	the number of colonies of micro-organisms (CFU) 22 °C	1000/ml	
3.16.	Coliform bacteria (number)	0/100 ml	For packaged water the maximum permissible value of this indicator is 0/250 ml
3.17.	total organic carbon (TOC)	no substantial changes	This parameter shall not be measured for supply objects of less than 10 000 m^3 a day.
3.18.	turbidity	3.0 NTU (nephelometric turbidity units)	

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Annex 2
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Indicators to be Determined for Monitoring of Drinking Water and Frequency of Analysis

1. Indicators to be determined for a regular monitoring:

1.1. indicators to be determined for a regular monitoring, except for food establishments

No.	Indicator	Notes
1.1.1.	aluminium	It shall be determined if aluminium salts are used as a floculant; in other cases it shall be determined in audit monitoring
1.1.2.	ammonium	It shall be determined if chloramination is used for disinfection; in other cases it shall be determined by applying the sampling frequency of audit monitoring
1.1.3.	iron	It shall be determined if ferric and ferrous salts are used as a floculant; in other cases it shall be determined by applying the sampling frequency of audit monitoring
1.1.4.	chlorides	Sampling frequency of audit monitoring shall be applied
1.1.5.	manganese	Sampling frequency of audit monitoring shall be applied
1.1.6.	sulphates	Sampling frequency of audit monitoring shall be applied
1.1.7.	turbidity	
1.1.8.	*Escherichia coli*	
1.1.9.	taste	
1.1.10.	the number of colonies of micro-organisms (CFU) 22 °C	
1.1.11.	colour	
1.1.12.	nitrites	It shall be determined if chloramination is used for disinfection; in other cases it shall be determined in audit monitoring
1.1.13.	odour	
1.1.14.	conductivity	
1.1.15.	total coliforms	
1.1.16.	hydrogen ion concentration (pH)	
1.1.17.	other indicators	It is possible to determine values in addition to those indicators that are not included in Annex 1 if it is necessary for the protection of human health and it has been established that they are required for the risk assessment

1.2. indicators to be determined for a regular monitoring for food establishments

No.	Indicator	Notes
1.2.1.	aluminium	It shall be determined if aluminium salts are used as a floculant; in other cases it shall be determined in audit monitoring
1.2.2.	ammonium	It shall be determined if chloramination is used for disinfection; in other cases it shall be determined in audit monitoring
1.2.3.	iron	It shall be determined if ferric and ferrous salts are used as a floculant; in other cases it shall be determined in audit monitoring
1.2.4.	turbidity	
1.2.5.	*Escherichia coli*	
1.2.6.	taste	
1.2.7.	the number of colonies of micro-organisms (CFU) 22 °C	
1.2.8.	the number of colonies of micro-organisms (CFU) 37 °C	To be determined of water is intended for filling in bottles or other containers for sale.
1.2.9.	colour	
1.2.10.	nitrites	To be determined if chloramination is used for disinfection, in other cases it shall be determined in audit inspections.
1.2.11.	odour	
1.2.12.	conductivity	
1.2.13.	total coliforms	
1.2.14.	hydrogen ion concentration (pH)	
1.2.15.	*Pseudomonas aeruginosa*	To be determined of water is intended for filling in bottles or other containers for sale.
1.2.16.	other indicators	It is possible to determine values in addition to those indicators that are not included in Annex 1 if it is necessary for the protection of human health and it has been established that they are required for the risk assessment

2. Indicators to be determined in audit monitoring

No.	Indicator	Notes
2.1.	aluminium	It shall be determined if not tested in a regular monitoring
2.2.	ammonium	Determined by food establishments. Determined by the Inspectorate if specified in the State monitoring programme for the current year
2.3.	iron	Determined by food establishments. Determined by the Inspectorate if specified in the State monitoring programme for the current year

2.4.	nitrites	It shall be determined if not tested in a regular monitoring
2.5.	*Clostridium perfringens*, including spores	It shall be determined for surface water or water that may be affected by surface water
2.6.	chlorides	Determined by food establishments. Determined by the Inspectorate if specified in the State monitoring programme for the current year
2.7.	manganese	Determined by food establishments. Determined by the Inspectorate if specified in the State monitoring programme for the current year
2.8.	sulphates	Determined by food establishments. Determined by the Inspectorate if specified in the State monitoring programme for the current year
2.9.	enterococci	
2.10.	arsenic	
2.11.	boron	
2.12.	fluorides	
2.13.	chromium	
2.14.	selenium	
2.15.	antimony	
2.16.	benzene	
2.17.	benzo(a)pyrene	
2.18.	bromates	
2.19.	cyanides	
2.20.	1,2-dichloroethane	
2.21.	mercury	
2.22.	cadmium	
2.23.	nickel	
2.24.	nitrates	
2.25.	polycyclic aromatic hydrocarbons	
2.26.	lead	
2.27.	tetrachloroethene and trichloroethene	
2.28.	trihalogenmethanes	
2.29.	copper	
2.30.	total organic carbon (TOC)	This parameter shall not be measured for supply objects of less than 10 000 m^3 a day.
2.31.	sodium	
2.32.	oxidizability ($KmnO_4$)	This parameter shall not be measured if TOC is measured
2.33.	pesticides (separately)	Only those pesticides shall be determined which are likely to be present
2.34.	pesticides (total)	
2.35.	acrylamide, vinyl chloride, epichlorohydrin	Inspected according to a product specifications

2.36.	other indicators	Determined by food establishments. Determined by the Inspectorate if specified in the State monitoring programme for the current year

3. The minimum frequency of sampling[1, 2, 3, 4, 5, 6, 7] and analysis of water for water from water pipelines, from tankers and in food establishments

No.	Average amount of water (m^3) per 24-hour period supplied/filled during the year in a supply zone[8, 9]	Number of samples of a regular monitoring per year	Number of samples of an audit monitoring per year
3.1.	less than 10	1[10]	1[11, 12]
3.2.	10-100	1	1[11, 12]
3.3.	101-1000	4	1
3.4.	1001-10,000	4 + 3 from each 1000 m^3/d in proportion to part thereof of the total volume	1 + 1 from each 4500 m^3/d in proportion to part thereof of the total volume
3.5.	10,001-100,000		3 + 1 from each 10,000 m^3/d in proportion to part thereof of the total volume
3.6.	more than 100,000		12 + 1 from each 25,000 m^3/d in proportion to part thereof of the total volume

Notes.

[1] Samples shall be taken in the places laid down in Paragraph 8 of this Regulation in order to ensure that drinking water complies with the requirements of this Regulation. If it is possible to prove that the measured value of the relevant indicators does not deteriorate, the Inspectorate may take samples in distribution networks in order to determine specific indicators either in the supply zone or in treatment facilities by ensuring that the quantity of samples is distributed equally in time and location.

[2] Standard LVS ISO 5667-5:2007 shall be complied with in relation to conducting sampling at the distribution network, except for sampling conducted from the tap of the consumer. Samples for microbiological inspections shall be taken and processed in accordance with standard LVS EN ISO 19458:2006.

[3] In the case of short-term supplies, the Inspectorate shall determine the frequency of the control of drinking water supplied in tankers.

[4] [1 September 2018 / see Paragraph 83 of Regulation]

[5] Samples shall be taken regularly so that the results of analyses would characterise the average annual parametric values determined for drinking water.

[6] Samples required to determine copper, lead, and nickel shall be taken from the tap of the consumer without pre-draining. The sample shall be taken on a randomly selected working day the volume of which shall be equal to one litre. The methods of specific fixed non-drainage time may be also used, unless the number of non-conformities at the level of the supply zone for that reason is less than by using the method of a random working day time.

[7] If the risk assessment referred to in Chapter IVof this Regulation is implemented for the purpose of determining the compliance of drinking water with the harmlessness indicators of

water laid down in Annex 1 to this Regulation, the Inspectorate may either increase or reduce the frequency of analyses in conformity with Paragraphs 39 and 40 of this Regulation.

[8] A supply zone is a geographically defined area in which drinking water is supplied from one or several resources and in which the quality of drinking water is considered as being equal.

[9] Volume of water is calculated as an average volume in a calendar year. The number of inhabitants in a supply zone may be utilised in calculation of water volume assuming that the water consumption is 200 litres a day per capita.

[10] In order to determine the compliance of drinking water with water indicators laid down in Annex 1 to this Regulation, the frequency of analyses of drinking water the supply volume of which does not exceed 10 m^3 within a twenty-four hour period may be reduced (except for food establishments), but not less than one sample over a period of three years, if determined by the Inspectorate.

[11] In order to determine the conformity of drinking water with water indicators laid down in Annex 1 to this Regulation (except for food establishments), the Inspectorate may reduce the frequency of analyses, but not less than one sample over a period of 10 years. The Inspectorate shall determine which indicators referred to in Annex 1 to this Regulation may be excluded from an audit inspection in accordance with the requirements of Sub-paragraph 14.2 of this Regulation.

[12] In order to determine the conformity of drinking water with water indicators laid down in Annex 1 to this Regulation, the Inspectorate may reduce the frequency of analyses for food establishments, but not less than one sample over a period of six years. The Inspectorate shall determine which indicators referred to in Annex 1 to this Regulation may be excluded from an audit inspection in accordance with the requirements of Sub-paragraph 14.2 of this Regulation.

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Annex 3
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Monitoring of the Indicators of Radioactive Substances

1. Indicators of radioactive substances to be determined in drinking water

No.	Indicator	Indicator value[1]	Notes
1.1.	radon	100 Bq/l	
1.2.	tritium	100 Bq/l	If radon concentrations exceed the determined indicator value, another artificial analysis of radionuclides shall be conducted
1.3.	indicative dose (ID)[2]	0.10 mSv/year	Indicative dose (ID) does nod exceed 0.10 mSv annually, if: 1) specific radioactivity of overall alpha radiation sources (total alpha radioactivity) does not exceed 0.1 Bq/l; 2) specific radioactivity of overall beta radiation sources (total beta radioactivity) does not exceed 1 Bq/l

Notes.
[1] The indicator value shall be the value of radioactive substances in drinking water.
[2] The indicative dose (ID) shall be the expected effective dose over a period of one year due to the absorption of all radionuclides of both natural and artificial origin the presence of which has been detected in the supplied drinking water, except for tritium, potassium-40, radon and radon decay products, radon decay products with a short semi-decay period.

2. The minimum frequency of sampling and analysis of water in order to determine radioactive substances

No.	Average amount of water (m^3) per twenty-four hour period supplied or filled during the year in a supply zone[a, b]	Quantity of samples[c, d, e] annually
2.1.	water which reaches drinking water pipelines and which is filled in tankers or supplied to food establishments	
2.1.1.	up to 100	1
1.2.2.	101-1000	1
2.1.3.	1001-10,000	1 + 1 from each 3300 m^3/d in proportion to part thereof of the total volume
2.1.4.	10,001-100,000	3 + 1 from each 10,000 m^3/d in proportion to part thereof of the total volume
2.1.5.	more than 100,000	10 + 1 from each 25,000 m^3/d in proportion to

		part thereof of the total volume
2.2.	drinking water filled in bottles or other containers intended for sale	1

Notes.
[a] A supply zone is a geographically defined area in which drinking water is supplied from one or several resources and in which the quality of drinking water is considered as being equal.
[b] Quantity is calculated as average volumes within a calendar year.
[c] As far as possible, the quantity of samples must be distributed equally in time and location.
[d] The specified quantity of samples annually applies to radon control.
[e] Samples shall be taken regularly so that that the results of analyses would characterise the average annual indicator values of radioactive substances determined for drinking water.

3. The methods for assessing the indicators of radioactive substances:

3.1. assessment of indicator values of the indicative dose (ID):

3.1.1. overall alpha radioactivity and overall beta radioactivity determination value shall be used in order to assess indicative dose (ID). Overall beta radioactivity value may be replaced by the remaining beta radioactivity value after K-40 radioactivity value is received;

3.1.2. if specific radioactivity of overall alpha radiation sources does not exceed 0.1 Bq/l and specific radioactivity of overall beta radiation sources does not exceed 1 Bq/l, the indicative dose (ID) shall be less than the indicator value of 0.1 mSv per year. In such case a more extensive inspection is not required, unless it is known that radionuclides are present in water supply due to which the indicative dose (ID) of 0.1 mSv per year may be exceeded;

3.1.3. if specific radioactivity of overall alpha radiation sources exceeds 0.1 Bq/l and specific radioactivity of overall beta radiation sources exceeds 1 Bq/l, a specific analysis of radionuclides shall be conducted. Radionuclides subject to measurement shall be determined by the Health Inspectorate in cooperation with the Radiation Safety Centre of the State Environmental Service by taking into account substantial information on potential radioactivity sources;

3.1.4. specific radioactivity of overall alpha radiation and specific radioactivity of overall beta radiation for tritium shall be measured in one and the same sample;

3.2. calculation of the indicative dose (ID):

3.2.1. indicative dose (ID) shall be calculated based on the measured radionuclide concentration and the expected effective dose (Sv/Bq) for inhabitants laid down in the laws and regulations regarding protection against ionising radiation, if radionuclides are assimilated with food or water, presuming that annual water consumption of an adult is 730 litres. The indicative dose (ID) shall be less than the indicator value of 0.1 mSv and additional inspection is not required, if the following relationship is in force:

$$\sum_{i=1}^{n} \frac{C_i\,(nov)}{C_i\,(atv)} \leq 1$$

where:
$C_{i(nov)}$ – observed concentration of radionuclide i;
$C_{i(atv)}$ – derived concentration of radionuclide i determined in Sub-paragraph 3.2.2 of Annex 2 to this Regulation;
N – the number of radionuclides detected;

3.2.2. derived concentration of radioactivity in drinking water

No.	Origin of radionuclide	Radionuclide[1]	Derived concentration
3.2.2.1.	natural	U-238[2]	3.0 Bq/l
3.2.2.2.	natural	U-234[2]	2.8 Bq/l
3.2.2.3.	natural	Ra-226	0.5 Bq/l
3.2.2.4.	natural	Ra-228	0.2 Bq/l
3.2.2.5.	natural	Pb-210	0.2 Bq/l
3.2.2.6.	natural	Po-210	0.1 Bq/l
3.2.2.7.	artificial	C-14	240 Bq/l
3.2.2.8.	artificial	Sr-90	4.9 Bq/l
3.2.2.9.	artificial	Pu-239/Pu-240	0.6 Bq/l
3.2.2.10.	artificial	Am-241	0.7 Bq/l
3.2.2.11.	artificial	Co-60	40 Bq/l
3.2.2.12.	artificial	Cs-134	7.2 Bq/l
3.2.2.13.	artificial	Cs-137	11 Bq/l
3.2.2.14.	artificial	I-131	6.2 Bq/l

3.3. efficiency characterisation and methods of analysis

No.	Indicators and radionuclides	Sensitivity level[3, 4]	Notes
3.3.1.	tritium	10 Bq/l	The limit of determination of tritium is 10% of its indicator value of 100 Bq/l
3.3.2.	radon	10 Bq/l	The limit of determination of radon is 10% of its indicator value of 100 Bq/l
3.3.3.	specific radioactivity of overall alpha radiation sources	0.04 Bq/l	The sensitivity level of specific radioactivity of overall alpha radiation sources is 40% of its indicator value of 0.1 Bq/l
3.3.4.	specific radioactivity of overall beta radiation sources	0.4 Bq/l	The sensitivity level of specific radioactivity of overall beta radiation sources is 40% of its indicator value of 1.0 Bq/l
3.3.5.	U-238	0.02 Bq/l	
3.3.6.	U-234	0.02 Bq/l	
3.3.7.	Ra-226	0.04 Bq/l	
3.3.8.	Ra-228	0.02 Bq/l	The sensitivity level shall be only attributed to initial indicative dose (ID) control in a new water source. If as a result of the initial inspection slight evidence is obtained for the fact that Ra-228 would exceed 20% of the derived concentration, the sensitivity level may be increased up to

			0.08 Bq/l for regular special measurements of Ra-228 radionuclides until repeated inspection is necessary
3.3.9.	Pb-210	0.02 Bq/l	
3.3.10.	Po-210	0.01 Bq/l	
3.3.11.	C-14	20 Bq/l	
3.3.12.	Sr-90	0.4 Bq/l	
3.3.13.	Pu-239/Pu-240	0.04 Bq/l	
3.3.14.	Am-241	0.06 Bq/l	
3.3.15.	Co-60	0.5 Bq/l	
3.3.16.	Cs-134	0.5 Bq/l	
3.3.17.	Cs-137	0.5 Bq/l	
3.3.18.	I-131	0.5 Bq/l	

Notes.
[1] The Table contains the most common values of natural and artificial radionuclides calculated per dose of 0.1 mSv, presuming that annual water consumption of an adult is 730 litres, and also by using the expected effective dose (Sv/Bq) for inhabitants laid down in the laws and regulations regarding protection against ionising radiation, if radionuclides are assimilated with food or water. The derived concentration of other radionuclides may be calculated in the same way.
[2] Only uranium radioactivity, other than its chemical toxicity, is specified in the Table.
[3] The sensitivity level shall be calculated in accordance with standard LVS ISO 11929:2017 "Determination of the characteristic limits (decision threshold, detection limit and limits of the confidence interval) for measurements of ionising radiation. Fundamentals and application".
[4] Measurement uncertainties shall be calculated and reported as a complete standard uncertainty or as an extended standard uncertainty with an extension coefficient of 1.96 in accordance with the guidelines on the expression of a measurement uncertainty elaborated by the Joint Committee for Guides and Metrology (JCGM).

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Annex 4
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Methods for Determination of Harmlessness and Quality Parameters of Drinking Water

1. Parameters for which particular methods of analysis have been determined

No.	Indicator	Method
1.1.	coliform bacteria and *Escheria coli* (*E. coli*)	LVS EN ISO 9308-1: 2014, LVS EN ISO 9308-2: 2014 "Water quality – Detection and enumeration of *Escherichia coli* and coliform bacteria – Part 1: Membrane filtration method. Part 2: Most probable number method"
1.2.	enterococci	LVS EN ISO 7899-2: 2006 "Water quality – Detection and enumeration of intestinal enterococci – Part 2: Membrane filtration method"
1.3.	*Pseudomonas aeruginosa*	LVS EN ISO 16266: 2008 "Water quality - Detection and enumeration of *Pseudomonas aeruginosa* by membrane filtration"
1.4.	colony count micro-organisms (CFU) 22 °C	LVS EN ISO 6222: 1999 "Water quality – Enumeration of culturable micro-organisms – Colony count by inoculation in a nutrient agar culture medium"
1.5.	colony count micro-organisms (CFU) 36 °C	LVS EN ISO 6222: 1999 "Water quality - Enumeration of culturable micro-organisms - Colony count by inoculation in a nutrient agar culture medium"
1.6.	*Clostridium perfringens* (including spores)	LVS EN ISO 14189: 2016 "Water quality – Enumeration of *Clostridium perfringens* – Method using membrane filtration (ISO 14189:2013)"

2. Indicators for which performance criteria are determined[1]

2.1. minimum indicators of the criterion "uncertainty of measurements"

No.	Parameters	Uncertainty of measurements[2, 3], % of the indicator value (except in relation to pH)
2.1.1.	aluminium	25
2.1.2.	ammonium	40
2.1.3.	antimony	40

2.1.4.	arsenic	30
2.1.5.	benz(a)pyrene	50
2.1.6.	benzene	40
2.1.7.	boron	25
2.1.8.	bromates	40
2.1.9.	cadmium	25
2.1.10.	chlorides	15
2.1.11.	chromium	30
2.1.12.	conductivity	20
2.1.13.	copper	25
2.1.14.	cyanides[5]	30
2.1.15.	1,2-dichloroethane	40
2.1.16.	fluorides	20
2.1.17.	hydrogen ion[6] concentration (pH)	0.2
2.1.18.	iron	30
2.1.19.	lead	25
2.1.20.	manganese	30
2.1.21.	mercury	30
2.1.22.	nickel	25
2.1.23.	nitrates	15
2.1.24.	nitrites	20
2.1.25.	oxidizability[7]	50
2.1.26.	pesticides[8]	30
2.1.27.	polycyclic aromatic hydrocarbons[9]	50
2.1.28.	selenium	40
2.1.29.	sodium	15
2.1.30.	sulphates	15
2.1.31.	tetrachloroethene[10]	30
2.1.32.	trichloroethane[10]	40
2.1.33.	trihalomethanes[9] – (in total)	40
2.1.34.	total organic carbon[11] (TOC)	30
2.1.35.	turbidity[12]	30
2.1.36.	acrylamide, epichlorohydrin, vinyl chloride – inspected according to product specifications	

2.2. indicators for which performance criteria have been determined

No.	Indicator	Reliability of results[13, 14] (%)	Precision of results[13, 15] (%)	Lowest limit of detection of the method[13, 16] (% of indicator value)
2.2.1.	aluminium	10	10	10
2.2.2.	ammonium	10	10	10

2.2.3.	antimony	25	25	25
4.2.2.	arsenic	10	10	10
2.2.5.	benzene	25	25	25
2.2.6.	benzo(a)pyrene	25	25	25
2.2.7.	boron	10	10	10
2.2.8.	bromates	25	25	25
2.2.9.	cyanides[5]	10	10	10
2.2.10.	1,2-dichloroethane	25	25	10
2.2.11.	iron	10	10	10
2.2.12.	mercury	20	10	20
2.2.13.	conductivity	10	10	10
2.2.14.	fluorides	10	10	10
2.2.15.	chlorides	10	10	10
2.2.16.	chromium	10	10	10
2.2.17.	cadmium	10	10	10
2.2.18.	manganese	10	10	10
2.2.19.	sodium	10	10	10
2.2.20.	nickel	10	10	10
2.2.21.	nitrates	10	10	10
2.2.22.	nitrites	10	10	10
2.2.23.	oxidizability[7]	25	25	10
2.2.24.	pesticides[8]	25	25	25
2.2.25.	polycyclic aromatic hydrocarbons[9]	25	25	25
2.2.26.	selenium	10	10	10
2.2.27.	sulphates	10	10	10
2.2.28.	lead	10	10	10
2.2.29.	tetrachloroethene[10]	25	25	10
2.2.30.	trihalomethanes[9] – (in total)	25	25	10
2.2.31.	trichloroethane[10]	25	25	10
2.2.32.	hydrogen ion concentration[6]	0.2 pH units		
2.2.33.	copper	10	10	10
2.2.34.	turbidity	25	25	25
2.2.35.	acrylamide, epichlorohydrin, vinyl chloride – inspected according to product specifications			

Notes.

[1] Performance criteria of indicators laid down in Paragraph 2 of this Annex shall be such in order to use the methods of analysis by which it is possible to achieve at least an equivalent detection limit, precision and reliability, as specified in this Table.

[2] The limit of quantitation of the used methods of analysis (the least concentration that may be determined quantitatively for which an uncertainty of measurements has been assessed) shall

be ≥ 30% of the normative value laid down for the indicator. In addition, uncertainty shall not exceed that specified in Sub-paragraph 2.1 of this Regulation.
The criteria indicated for parameters laid down in Sub-paragraph 2.1 of this Regulation shall be such as to ensure the possibility, with the help of the used method of analysis, to at least measure the concentration which is equivalent to the parameter value with the limit of quantitation and is equal to 30% of the respective parameter value or less, and the uncertainty of measurements indicated in Sub-paragraph 2.1 of this Annex.
[3] The uncertainty of measurements shall be a negative indicator, characterising the extent of dispersion of values that, based on the information used, are attributed to a measurement value. The criterion "uncertainty of measurements" (k=2, where k – a numerical value used in statistics – a coverage factor used as a multiplier for the calculation of uncertainty so that at least 95% reliability would be ensured to the uncertainty of measurements) shall be the per cent of the parameter value indicated in the Table or above it. The uncertainty of measurements shall be assessed at the level of the parameter value, unless it is specified otherwise.
[4] If it is not possible to achieve the value of the uncertainty of measurements, it is recommended to select the best available method (up to 60%).
[5] Total amount of cyanide in all forms thereof shall be determined by using this method.
[6] The values of reliability, precision and uncertainty of measurements shall be expressed in pH units.
[7] Reference method: standard LVS EN ISO 8467:2000 L.
[8] Performance criteria of certain pesticides shall be specified indicatively. In relation to certain pesticides it is possible to achieve the value of the uncertainty of measurements in the amount of 30%; higher values may be permitted in relation to multiple pesticides – up to 80%.
[9] Criteria shall apply to individual substances whereof the number 25% of the parameter value is indicated in Paragraph 2 of Annex 1 to this Regulation.
[10] Criteria shall apply to individual substances whereof the number 50 % of the parameter value is indicated in Paragraph 2 of Annex 1 to this Regulation.
[11] It is recommended to calculate the uncertainty of measurements for total organic carbon (TOC) at the concentration level of 3 mg/l. It is necessary to use standard LVS EN 1484:2000 "Water analysis – Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)".
[12] It is recommended to determine measurement uncertainties in accordance with standard LVS EN ISO 7027-1:2016 "Water quality – Determination of turbidity" at the level of 1.0 NTU (nephelometric turbidity units).
[13] Irrespective of the sensitivity of the method of analysis used (lowest limit of detection of the method), results shall be expressed by using at least the number of decimals for indicator values as laid down in Paragraphs 2 and 3 of Annex 1 to this Regulation.
[14] LVS ISO 5725-1:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 1: General principles and definitions", LVS ISO 5725-2:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method", LVS ISO 5725-3:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 3: Intermediate measures of the precision of a standard measurement method", LVS ISO 5725-4:2006 "Accuracy (trueness and precision) of measurement methods and results – Part 4: Basic methods for the determination of the trueness of a standard measurement method", LVS ISO 5725-5:2006 + AC "Accuracy (trueness and precision) of measurement methods and results – Part 5: Alternative methods for the determination of the precision of a standard measurement method" and LV ISO 5725-6:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 6: Use in practice of accuracy values" – systematic error expressed as the difference between

the true value of the indicator and the mean value obtained as a result of a sufficiently large number of repeated measurements.

[15] LVS ISO 5725-1:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 1: General principles and definitions", LVS ISO 5725-2:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method", LVS ISO 5725-3:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 3: Intermediate measures of the precision of a standard measurement method", LVS ISO 5725-4:2006 "Accuracy (trueness and precision) of measurement methods and results – Part 4: Basic methods for the determination of the trueness of a standard measurement method", LVS ISO 5725-5:2006 + AC "Accuracy (trueness and precision) of measurement methods and results – Part 5: Alternative methods for the determination of the precision of a standard measurement method" and LV ISO 5725-6:2006 + TC1 "Accuracy (trueness and precision) of measurement methods and results – Part 6: Use in practice of accuracy values" – the random error expressed as the standard deviation (within or between batches) of the average value of the indicator specified. The acceptable precision is twice the relative standard deviation.

[16] Lowest limit of detection – three times the relative standard deviation of a control sample of natural water with the lowest concentration of the relevant indicator, which is determinable by the method utilised, or five times the relative standard deviation of a control sample.

Minister for Agriculture Jānis Dūklavs