

Text consolidated by Valsts valodas centrs (State Language Centre) with amending regulations of:  
2 October 2012 (No. 676) [shall come into force from 6 October 2012].

If a whole or part of a paragraph has been amended, the date of the amending regulation appears in square brackets at the end of the paragraph. If a whole paragraph or sub-paragraph has been deleted, the date of the deletion appears in square brackets beside the deleted paragraph or sub-paragraph.

Republic of Latvia

Cabinet

Regulation No. 401

Adopted 24 May 2011

## **Requirements for Incineration of Waste and Operation of Waste Incineration Plants**

*Issued pursuant to  
Section 22, Paragraph two, Clause 3 of the Waste Management Law and  
Section 11, Paragraph two, Clause 7 of the Law On Pollution*

### **I. General Provisions**

1. This Regulation prescribes the requirements for the incineration of waste (including hazardous waste), as well as for the operation of waste incineration plants.

2. This Regulation shall apply to:

2.1. stationary or mobile technical units or equipment dedicated to the thermal treatment of wastes with or without recovery of the combustion heat generated, by oxidation of waste, as well as other thermal treatment processes (including pyrolysis, gasification or plasma processes), if the substances resulting from the treatment are subsequently incinerated (hereinafter – waste incineration plant). If waste incineration takes place in such a way that the main purpose of the plant is not the generation of energy or production of material products but rather the thermal treatment of waste, the plant shall be regarded as a waste incineration plant;

2.2. stationary or mobile technical units dedicated to the generation of energy or production of certain type of materials and which use waste as a regular or additional fuel or in which waste is thermally disposed (hereinafter – co-incineration plant). If waste is co-incinerated in a plant the main function of which is not the generation of energy or products, but rather the thermal processing of waste, the plant shall be regarded a waste incineration plant;

2.3. territories of waste incineration and co-incineration plants (hereinafter – plant) (including all incineration lines or co-incineration lines, units of waste collection, storage and local pre-treatment, fuel and air supply systems, facilities for cleaning of exhaust gases and facilities for storage and purification of waste water, chimneys), devices and systems for the management and control of the operation of the incineration or co-incineration process and monitoring and recording of incineration or co-incineration conditions;

2.4. existing waste incineration or co-incineration plants which operate in accordance with Paragraph 4 of this Regulation.

[2 October 2012]

3. This Regulation shall not apply to:

3.1. plants treating or incinerating the following wastes:

3.1.1. vegetable waste from agriculture and forestry activity;

3.1.2. vegetable waste from the food processing industry if the heat generated as a result of incineration is utilised;

3.1.3. fibrous vegetable waste from virgin pulp production, as well as from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated as a result of incineration is utilised;

3.1.4. wood waste with the exception of wood waste which contains or may contain halogenated organic compounds or heavy metals as a result of treatment;

3.1.5. cork treatment waste;

3.1.6. animal by-products not intended for human consumption in accordance with Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002, except for the determined in Article 12 (a) and (b), Article 13 (2) (a) and (b), as well as Article 14 (a) and (b) in the referred to Regulation, if they are directly disposed as waste;

3.1.7. radioactive waste;

3.1.8. waste resulting from the exploration for, and the exploitation of, oil or gas resources from off-shore installations, if incinerated on board the relevant installation;

3.1.9. animal by-products and derived products which are not intended for human consumption and which are incinerated or recycled in the incineration and co-incineration plants referred to in Article 6 (1) (b) of Regulation (EC) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive;

3.2. experimental plants used for research, development and testing of the incineration process, if such plants treat less than 50 tonnes of waste per year.

[2 October 2012]

4. Waste incineration or co-incineration plants which have received a permit and put into operation before 28 December 2002, and waste incineration or co-incineration plants which have received a permit before 28 December 2002 provided that the plants are put into operation not later than on 28 December 2003, as well as waste incineration or co-incineration plants which have submitted a submission to a regional environmental board of the State Environmental Service for the receipt of a permit before 28 December 2002 provided that they are put into operation not later than on 28 December 2004 shall be regarded as existing waste incineration or co-incineration plants.

5. The specific requirements for hazardous waste in this Regulation shall not apply to liquid wastes including waste oils (any lubricating oil of mineral origin or industrial oils, also oils of used internal combustion engines, oils of gearboxes, mineral lubricating oils, turbine oils and hydraulic oils), if:

5.1. the concentration of polychlorinated aromatic hydrocarbons, including polychlorinated biphenyls, polychlorinated terphenyls and pentachlorinated phenol is not more than 50 ppm;

5.2. they do not contain other hazardous waste referred to in waste classification in such amount or concentration which upon incineration pollutes surface or groundwater, air, soil or ground and endangers or could endanger human health or environment;

5.3. their calorific value is not less than 30 MJ/kg;

5.4. when incinerated, emission to be compared to emission resulting from the combustion of light gasoil or higher than that is not caused.

6. An operator shall ensure that:

6.1. the plant is designed, built and operated taking into account the requirements determined in this Regulation and other laws and regulations governing the field of environmental protection, as well as taking into account the category of waste to be incinerated;

6.2. the heat generated as a result of incineration and co-incineration process is utilised as far as practicable (generating power or using the generated heat for heating);

6.3. waste is combusted as completely as possible in order that the total carbon content in ash and slag does not exceed 3% or losses during combustion process do not exceed 5% of dry weight of the material, as well as harmfulness of waste is minimised. If necessary, the operator shall use waste pretreatment technologies;

6.4. the residues which cannot be prevented and recycled are disposed in accordance with the procedure determined in the laws and regulations regarding types for treatment, recovery and disposal of waste;

6.5. the employees who are controlling and managing the plants have the necessary education, as well as knowledge regarding chemical substances and hazardous chemical products, in compliance with laws and regulations regarding the level of education necessary for the persons performing entrepreneurship with chemical substance and chemical products.

7. In order to initiate or continue operation of the plant, a permit for the Category A or B polluting activity is necessary which has been issued by a relevant regional environmental board in accordance with the laws and regulations in the field of pollution prevention and control.

8. Emission limit values determined also in other laws and regulations governing the field of environmental protection shall be applied to the plants. When performing monitoring of emission into the air and water, the operator shall:

8.1. determine the concentration of air and water polluting substances ensuring the veracity of the results. Measurements performed for the determination of concentrations of air and water polluting substances have to be carried out representatively;

8.2. take samples of pollutants including dioxins and furans and carry out analysis thereof, as well as perform reference measurements to calibrate automated measurement systems in compliance with the standards laid down in Chapter VII of this Regulation;

8.3. observe the requirements laid down in Annex 1 to this Regulation.

9. If in other laws and regulations more stringent emission limit values are set for co-incineration plants than in this Regulation, more stringent emission limit values shall be in force.

## **II. Delivery and Reception of Waste**

10. When receiving waste, the operator shall take all necessary measures in order to prevent or, if it is impossible, to limit negative effects thereof on the environment, in particular the pollution of air, soil, surface water and groundwater as well as odours, noise, and risk factors causing direct threat to human health.

11. Prior to acceptance of waste an operator shall obtain a description of the waste from the waste supplier which shall cover:

- 11.1. name and address of the producer;
- 11.2. name and address of the supplier;
- 11.3. shipment permit number and date of issue;
- 11.4. category and name in accordance with the laws and regulations regarding waste classification and properties which make the waste hazardous;
- 11.5. methods of treatment;
- 11.6. description of physical properties;
- 11.7. chemical composition and information regarding necessary safety measures for incineration of such waste;
- 11.8. the hazardous characteristics and chemical substances or products with which the waste cannot be mixed, as well as the precautions to be taken in handling the waste;
- 11.9. weight.

12. Prior to accepting waste for incineration at the co-incineration plant the operator shall:

- 12.1. determine the weight of each type of waste;
- 12.2. check whether the procedures for keeping a register, identification, labelling of waste and keeping a register of transport (also trans-boundary transport) have been complied with;
- 12.3. check the name and address of the supplier and producer of waste;
- 12.4. check the information regarding the methods utilised for waste treatment;
- 12.5. check the information regarding composition and amount of waste;
- 12.6. take samples of hazardous waste before unloading thereof to verify conformity of hazardous waste with the description referred to in Paragraph 11 of this Regulation. Samples of hazardous waste shall be kept for at least one month after the incineration thereof.

13. It is prohibited to mix infectious clinical waste with other waste, as well as to load or move it with hands. Such waste shall be incinerated as soon as possible and intermediate storage thereof is prohibited.

14. A regional environmental board shall determine exemptions in respect of:

- 14.1. the requirements referred to in Sub-paragraph 12.6 of this Regulation, if taking of such samples is not useful, including in respect of clinical waste; and
- 14.2. the requirements referred to in Paragraphs 11 and 12 of this Regulation for undertakings and plants incinerating only their own waste at the place of generation of the waste provided that other requirements laid down in this Regulation and other laws and regulations are met.

### **III. Operation of a Plant and Duties of the Responsible Authorities**

15. Waste incineration plant shall ensure such level of waste incineration at which the total carbon content in ashes and slag does not exceed 3% or losses during incineration process do not exceed 5% of dry weight of the material, as well as harmfulness of waste is minimised. If necessary, the operator shall use waste pretreatment technologies.

16. Waste incineration plants shall be designed, built, equipped and operated in such a way that the combustion gases resulting from the process are raised, after the last injection of air, in a controlled and homogeneous fashion (even under the most unfavourable conditions, for example, technological disturbance in the operation of the incineration plant related to uneven supply of waste flow) to a temperature above 850°C, and retain in such temperature for at

least two seconds. Temperature shall be measured near the inner wall or at another representative point of the combustion chamber as authorised by the regional environmental board. If substances containing halogens exceed 1% (expressed as chlorine) in hazardous waste to be incinerated, the temperature of combustion gases has to be raised above 1100°C and they shall be retained in such temperature for at least two seconds.

17. Each waste incineration plant shall be equipped with at least one auxiliary burner which switches on automatically for the temperature of the combustion gases after the last injection of combustion air to maintain above 850°C or 1100°C. Auxiliary burners shall be used during waste incineration plant start-up and shut-down operations in order to ensure the temperature within the range from 850°C to 1100°C in the combustion chamber as long as unburned waste is therein.

*[2 October 2012]*

18. During start-up and shut-down of the waste incineration plant while the temperature of the combustion gases is within the interval from 850°C to 1100°C, the auxiliary burners shall not be fed with fuels which can cause higher emissions than those resulting from the burning of liquefied gas or natural gas or gasoil complying with the laws and regulations regarding limitation of sulphur content for certain types of liquid fuels.

19. Waste co-incineration plants shall be designed, built, equipped and operated in such a way that the combustion gases resulting from the process are raised, after the last injection of air, in a controlled and homogeneous fashion (even under the most unfavourable conditions, for example, technological disturbance in the operation of the incineration plant related to uneven supply of waste flow) to a temperature above 850°C, and retain in such temperature for at least two seconds. If substances containing halogens exceed 1% (expressed as chlorine) in hazardous wastes to be incinerated, the temperature of combustion gases has to be raised above 1100°C.

20. Plants shall be equipped with a system which automatically prevents waste feed in a combustion chamber:

20.1. until the temperature necessary for waste incineration determined in this Regulation has not been reached;

20.2. until the minimum temperature necessary for waste incineration determined in this Regulation is not maintained;

20.3. if the results of the continuous measurements show that any emission limit value of the substance subject to monitoring is exceeded in the purification plants.

21. Plants shall be designed, built, equipped and operated in such a way as to prevent emissions into the air of such pollutants giving rise to significant ground-level air pollution. Exhaust gases shall be discharged in chimneys which are specially equipped for emission measuring and control and which are sufficiently high so as to safeguard human health and the environment.

22. A regional environmental board shall determine deviations from the requirements laid down in Paragraphs 16, 17, 18 and 19 of this Regulation in the conditions of a permit referred to in this Regulation, if the amount of residues acquired is not increased or residues with higher content of organic compounds are not acquired, as well as emission limit values determined in this Regulation are observed, including emission limit values in respect of total organic carbon and carbon monoxide in accordance with Annex 2 to this Regulation.

23. A regional environmental board shall inform the Environmental State Bureau and the State limited liability company Latvian Environment, Geology and Meteorology Centre (hereinafter – Centre) regarding all cases when deviation from the requirements of this Regulation are allowed.

24. The Centre shall evaluate the allowed deviations from the requirements of this Regulation and inform the European Commission thereof.

#### **IV. Air Emission Limit Values**

25. Incineration plants shall be designed, built, equipped and operated in such a way that the emission limit values determined in Annex 2 to this Regulation are not exceeded in the exhaust gases.

26. Emission limit values for all polychlorinated dibenzo-p-dioxins and dibenzofurans (hereinafter – dioxins and furans) included in Annex 3 to this Regulation shall be determined in accordance with Annex 2 to this Regulation taking into account the toxic equivalence factors determined in Annex 3.

27. Co-incineration plants shall be designed, built, equipped and operated in such a way that the emission limit values determined in Annex 4 to this Regulation are not exceeded in the exhaust gases.

28. If in a co-incineration plant more than 40% of the resulting heat release comes from hazardous waste incineration, the emission limit values determined in Annex 2 to this Regulation shall apply to such plant.

29. In order to ensure compliance with emission limit values, the operator shall perform measurements in accordance with the requirements referred to in Chapter VII of this Regulation.

30. In the case of co-incineration of mixed municipal waste, the emission limit values determined in Annex 2 to this Regulation shall be taken into account.

31. Mixed municipal waste shall be household waste, as well as waste produced by industrial undertakings and institutions which according to the characteristics and content thereof is similar to household waste, except the waste included in the Chapter 20 01 of the waste classification and which is collected separately at the place of production thereof, as well as except the waste which is included in the Chapter 20 02 of the waste classification.

#### **V. Waste Water from the Cleaning of Exhaust Gases**

32. Waste water from the cleaning of exhaust gases may be discharged into groundwater or surface water only after purification thereof, if the following is observed:

32.1. emission limits determined in a permit for the substances referred to in Annex 5 to this Regulation;

32.2. conditions of a permit for performance of monitoring;

32.3. other conditions of a permit and requirements of other laws and regulations, including emission limits for the substances which are not referred to in Annex 5 to this Regulation and conditions regarding discharge of hazardous substances in surface water and groundwater.

33. The emission limit values determined in a permit shall be determined at the point where waste waters from the cleaning of exhaust gases are discharged from the incineration or co-incineration plant.

34. Where the waste water from the cleaning of exhaust gases is purified in a waste water purification plant owned by the undertaking (hereinafter – purification plant) collectively with other waste water produced by waste incineration plant, the operator shall determine the parameters determined in Paragraph 59 of this Regulation at the following points:

34.1. waste water from the exhaust gas cleaning process – prior to input thereof into the purification plant;

34.2. other waste water – prior to input thereof into the purification plant;

34.3. purified waste water – at the point of its discharge from the purification plant.

35. In cases referred to in Paragraph 34 of this Regulation the operator shall calculate mass balance determining the amount of emitted substances in waste water discharged from purification plants, as well as shall calculate, whether the waste water arising from the cleaning of exhaust gases comply with the emission limit values determined in Annex 5 to this Regulation after purification thereof. Dilution of waste water is prohibited in order to reach the compliance with the emission limit values determined in Annex 5 to this Regulation.

36. When waste water from the cleaning of exhaust gases is purified outside the undertaking and such purification plants are not intended for the purification of other waste water, the waste water shall comply with the emission limit values determined in Annex 5 to this Regulation at the point where it leaves the purification plant.

37. When waste water from the cleaning of exhaust gases is purified outside the undertaking and such purification plants are intended for the purification of other waste water, the compliance of waste water with the emission limit values determined in Annex 5 to this Regulation shall be calculated in accordance with the procedures laid down in Paragraphs 34 and 35 of this Regulation.

38. Plants and storage areas for wastes shall be designed in such a way as to prevent the unauthorised or accidental release of polluting substances into soil, surface water and groundwater. Special tanks for collection and storage of rainwater, spillage and water used for fire-fighting shall be made in the plant. Tanks shall be of sufficient capacity to ensure the control and purification of such waters before discharge thereof.

## **VI. Management of Residues**

39. Residues are liquid or solid material (including ash, slag, dust, solid products, sewage sludge from waste water purification plants, spent catalysts, spent activated carbon), which is generated by the incineration or co-incineration process, or the exhaust gases or waste water treatment or other processes within the relevant plant.

40. The operator shall take measures to minimise the amount and harmfulness of residues. Residues shall be treated directly in the plant or outside it in accordance with the requirements laid down in laws and regulations.

41. Closed containers shall be used for intermediate storage and transport of dry powdery residues (including dry residues from the treatment of dust and exhaust gases) in order to prevent dispersal thereof in the environment.

42. Prior to taking the decision on the use, treatment and disposal of the residues, the operator shall determine the physical and chemical characteristics and possible environmental pollution, as well as total content of soluble fractions and heavy metals therein.

## **VII. Control and Monitoring of the Operation of a Plant**

43. The operator shall use such devices for measurements which measure all necessary parameters, conditions and concentrations of the incineration or co-incineration process.

44. The automatic plants shall be subject to annual control and test in order to determine emission into air. Plants shall be calibrated in compliance with the reference methods by means of parallel measurements at least once every three years.

45. The operator shall ensure arrangement of a sampling and emission determination point in accordance with the requirements of the standard LVS ISO 9096:2006 “Stationary source emissions – Manual determination of mass concentration of particulate matter” (hereinafter – LVS ISO 9096) or LVS ISO 10780:2002 “Stationary source emissions – Measurement of velocity and volume flowrate of gas streams in ducts” (hereinafter – LVS ISO 10780), as well as ensure the control of efficiency of gas purification plants.

46. Emission measurements in a periodic control shall be carried out by the testing laboratories accredited in the relevant field, which have been accredited by the Latvian National Accreditation Bureau of the limited liability company Standardisation, Accreditation and Metrology Centre or in other accreditation institution of the Member State of the European Union or European Economic Area state in compliance with the criteria laid down in the standard LVS EN ISO/IEC 17025:2005 “General requirements for the competence of testing and calibration laboratories”. Measuring instruments tested metrologically shall be used for the determination of the concentration of pollutants and measurements shall be performed in compliance with the requirements laid down in the following standard methodologies:

46.1. sampling and measurements of gas flows – LVS ISO 9096 and LVS 10780;

46.2. sampling for the automated determination of gas concentration – LVS ISO 10396:2007 „Stationary source emissions. Sampling for the automated determination of gas emission concentrations for permanently installed monitoring systems”;

46.3. determination of nitrogen oxides (hereinafter – NO<sub>x</sub>) LVS ISO 10849:2001 “Stationary source emissions – Determination of the mass concentration of nitrogen oxides – Performance characteristics of automated measuring systems” and LVS ISO 11564:2002 “Stationary source emissions – Determination of the mass concentration of nitrogen oxides – Naphthylethylenediamine photometric method”;

46.4. measurement of concentration of particulate matter – LVS ISO 9096;

46.5. determination of hydrogen chloride (hereinafter – HCl) – LVS EN 1911:2011 “Stationary source emissions. Determination of mass concentration of gaseous chlorides expressed as HCl. Standard reference method”;

46.6. determination of total organic carbon – LVS EN 12619:2004 “Stationary source emissions – Determination of the mass concentration of total gaseous organic carbon at low concentrations in flue gases – Continuous flame ionisation detector method”.

47. A plant operator shall perform measurements in compliance with the conditions of a permit, as well as determine the following pollutants:



47.1. continuously – NO<sub>x</sub> (provided the relevant emission limits are determined), carbon monoxides (hereinafter – CO), total amount of dust, total amount of organic carbon, HCl, hydrogen fluoride (hereinafter – HF), sulphur dioxide (hereinafter – SO<sub>2</sub>);

47.2. continuously – incineration temperature (near the inner wall or at another point of the combustion chamber, where it is possible to determine it) in compliance with the conditions of a permit, concentration of oxygen and pressure, as well as temperature and water vapour content of the exhaust gases;

47.3. at least two times per year, but in the first year of operation of the plant at least once every three months – heavy metals, as well as dioxins and furans.

48. Prior to the initiation of operation of a plant, as well as under the most unfavourable conditions of operation of the plant (for example, technological disturbance in the operation of the incineration plant related to uneven supply of waste flow) the operator shall test the exposure period of waste to be incinerated as set out in Paragraphs 16 and 19 of this Regulation, the minimum waste incineration temperature, as well as the oxygen content in the exhaust gases.

49. The continuous measurements of HF shall not be mandatory if such purification of HCl is ensured that the emission limit values of HCl are not being exceeded. In such cases HF shall be determined in accordance with the procedures laid down in Sub-paragraph 47.3 of this Regulation.

50. Continuous water vapour measurements are not mandatory if the exhaust gases to be analysed are dried before the point of measurement.

51. A permit from a regional environmental board shall not require that the operator carries out continuous measurements of HCl, HF and SO<sub>2</sub> if the operator, in an application for the obtaining of the permit, has submitted sufficient evidence that the emission limit values of such substances in the operation of the plant cannot be exceeded and the operator takes measurements in accordance with the procedures laid down in Sub-paragraph 47.3 of this Regulation.

52. Measurements required for checking the compliance of a plant with the emission limit values determined by this Regulation shall be standardised by taking into account the oxygen content calculated in accordance with Annex 6 to this Regulation:

52.1. for waste incineration plants – temperature 273 K, pressure 101.3 kPa, oxygen content in dry gas 11%;

52.2. when incinerating waste oil – temperature 273 K, pressure 101.3 kPa, oxygen content in dry gas 3%;

52.3. when incinerating or co-incinerating waste in an oxygen-enriched atmosphere, the results of the measurements shall be standardised in compliance with the specific circumstances by taking into account the conditions of the permit;

52.4. the results of measurements for co-incineration plants shall be standardised by taking into account the total oxygen content as calculated in accordance with Annex 5 to this Regulation.

53. If, upon incineration of hazardous waste, the emission of pollutants decreases, the standardisation referred to in Paragraph 52 of this Regulation, when cleaning exhaust gases, is required only in such case if the oxygen content measured over the same period as for the relevant polluting substance exceeds the relevant standard concentration determined for oxygen.

54. The emission limit values for air shall be regarded as being complied with if:
- 54.1. none of the daily average values exceeds any of the emission limit values determined in Table 1 of Annex 2 and Annex 4 to this Regulation;
  - 54.2. 97% of the daily average values determined over the year do not exceed the emission limit values determined in Sub-paragraph 4.1 of Annex 2 to this Regulation;
  - 54.3. none of the half-hourly measurement average values exceeds the emission limit values determined in Column A, Table 2 of Annex 2 to this Regulation, or 97% of the half-hourly measurement average values over the year do not exceed the emission limit values determined in Column B, Table 2 of Annex 2 to this Regulation;
  - 54.4. none of the average values of heavy metals or dioxins and furans determined during the collection period exceeds the emission limit values determined in Table 3 of Annex 2 and Paragraph 8 of Annex 2 to this Regulation, as well as in Annex 4 to this Regulation;
  - 54.5. the conditions referred to in Sub-paragraph 4.2 of Annex 2 and Annex 4 to this Regulation are met.
55. The half-hourly average values and the 10-minute average values shall be determined during the period of operation of plants (excluding the start-up and shut-off periods if no waste is being incinerated in the plant) on the basis of the measurements from which the value of the confidence interval is subtracted (Annex 1). The daily average values shall be determined on the basis of the calculated half-hourly and 10-minute average values.
56. To obtain a substantiated daily average value, no more than five half-hourly average values may be discarded due to malfunction of measuring devices or in connection with the maintenance of such plant.
57. To obtain a substantiated annual average value, no more than 10 daily average values may be discarded due to malfunction of measuring devices or in connection with the maintenance of this plant.
58. Average HF, HCl and SO<sub>2</sub> values shall be determined in accordance with the conditions of the permit and in accordance with Annex 1 to this Regulation if periodic measurements of the concentration of such substances are carried out.
59. The operator shall carry out measurements in compliance with the conditions of the permit within the intervals determined in the permit, as well as shall measure parameters at locations where waste water is discharged from waste incineration plant:
- 59.1. continuously – waste water pH, temperature and the flow-rate;
  - 59.2. every day – total quantity of suspended substances;
  - 59.3. at least once a month – the pollutants set out in Annex 5 to this Regulation (excluding suspended substances, dioxins and furans) by taking flow proportional samples accumulated within a 24-hour period;
  - 59.4. at least once every six months – dioxins and furans, but in the first year of operation of the plant at least once every three months.
60. Monitoring of the quantity of pollutants in the purified waste water shall be performed, the frequency of measurements determined and the methods of analysis chosen in accordance with the conditions of the permit and the requirements of laws and regulations.
61. The emission limit values into water shall be regarded as being complied with if:
- 61.1. for total suspended particles, 95% to 100% of the samples do not exceed the emission limit values determined in Annex 5 to this Regulation;

61.2. for heavy metals, no more than one measurement per year exceeds the emission limit values determined in Annex 5 to this Regulation or, if more than 20 samples have been analysed within a one-year period, no more than 5% of the cases;

61.3. for dioxins and furans, none of the measurements taken two times a year exceed the relevant emission limit values determined in Annex 5 to this Regulation.

62. If measurements show that the emission limit values set out in this Regulation have been exceeded, the operator shall inform the relevant regional environmental board without delay.

63. All the results of the measurements set out in this Regulation and the conditions of the permit shall be recorded so that State environment inspectors can check the conformity of the operation of the plant with the conditions of the permit and requirements of laws and regulations.

### **VIII. Abnormal Operating Conditions of a Plant**

64. A regional environmental board shall determine in a permit the maximum permissible period of time during which the waste incineration plant may operate under circumstances of unavoidable malfunction or failure of the air or water purification plants or measurement devices when the emission limit values of pollutants in the exhaust gases or treated waste water referred to in this Regulation may be exceeded.

65. An operator shall without delay inform the relevant regional environmental board of all emergencies which have resulted or which are likely to result in unauthorised environmental pollution, as well as of the commencement of urgent measures for the prevention of a possible accident or for the elimination of consequences of an accident.

66. If the plant is damaged, the operator shall reduce or close down the operation thereof until normal operations can be resumed.

67. The operator of a hazardous waste incineration or co-incineration plant may not continue incineration of hazardous waste if the emission limit values have been exceeded for a period of more than four hours without interruption. The emission limit values within a period of one year may not be exceeded for more than 60 hours. This condition (60 hours) shall also apply to several lines of waste incineration jointly which are connected to a common exhaust gas cleaning system in one plant.

68. The total dust content of emissions into the air shall under no circumstances exceed 150 mg/m<sup>3</sup> expressed as a half-hourly average, moreover, the air emission values for CO and total organic carbon shall not be exceeded. All other requirements set out in Chapter III of this Regulation for the operation of a plant shall be complied with.

### **IX. Informing the Public**

69. The Centre shall place a list of all waste incineration and co-incineration plants on its Internet home page.

70. If the nominal capacity of a plant (the sum total of the incineration capacity of a waste incineration plant in compliance with the design of the plant in accordance with technical documentation of the manufacturer of the plant complies with waste heat capacity and the amount of waste which may be incinerated in one hour) exceeds two tonnes per hour, the operator shall submit a report to the Centre annually. The Centre shall place the referred-to

report on its website, ensuring its availability to the public. The report shall include the following information:

- 70.1. regarding the amount of waste incinerated, indicating the waste categories;
- 70.2. regarding emissions into the air and water, and the results of monitoring and comparison thereof with the requirements laid down in laws and regulations and permit;
- 70.3. information submitted by other operators.

## **X. Closing Provision**

71. Cabinet Regulation No. 323 of 17 July 2001, Requirements for Incineration of Waste and Operation of Waste Incineration Plants, (*Latvijas Vēstnesis*, 2001, No. 154.; 2002, No. 119; 2003, No. 21; 2004, No. 69; 2009, No. 118, 172) is repealed.

## **Informative Reference to the European Union Directive**

This Regulation contains legal norms arising from Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).

[2 October 2012]

Prime Minister

V. Dombrovskis

Minister for Environmental Protection and Regional Development

R. Vējonis

### **Measurement Techniques**

At the daily emission limit value level, the values of the 95% confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

No.	Pollutant	Emission limit values
1.	Carbon monoxide	10%
2.	Nitrogen dioxide	20%
3.	Sulphur dioxide	20%
4.	Total dust content	30%
5.	Total organic carbon	30%
6.	Hydrogen chloride	40%
7.	Hydrogen fluoride	40%

Minister for Environmental Protection and Regional Development

R. Vējonis

## Air Emission Limit Values Determined for Waste Incineration Plants

### I. Daily average values

Table 1

No.	Pollutants	Emission limit values
1.	Particulate matter (total)	10 mg/m <sup>3</sup>
2.	Gaseous and vaporous organic substances, expressed as total organic carbon	10 mg/m <sup>3</sup>
3.	Hydrogen chloride (HCl)	10 mg/m <sup>3</sup>
4.	Hydrogen fluoride (HF)	1 mg/m <sup>3</sup>
5.	Sulphur dioxide (SO <sub>2</sub> )	50 mg/m <sup>3</sup>
6.	Nitrogen monoxide (NO) and nitrogen dioxide (NO <sub>2</sub> ) expressed as nitrogen dioxide for existing incineration plants with a nominal capacity exceeding 6 tonnes per hour and new incineration plants	200 mg/m <sup>3</sup>
7.	Nitrogen monoxide (NO) and nitrogen dioxide (NO <sub>2</sub> ) expressed as nitrogen dioxide for existing incineration plants with a nominal capacity up to 6 tonnes per hour	400 mg/m <sup>3</sup>

### II. Half-hourly average values

Table 2

No.	Pollutants	Emission limit values	
		Column A (100%)	Column B (97%)
1.	Particulate matter (total)	30 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
2.	Gaseous and vaporous organic substances, expressed as total organic carbon	20 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
3.	Hydrogen chloride (HCl)	60 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
4.	Hydrogen fluoride (HF)	4 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
5.	Sulphur dioxide (SO <sub>2</sub> )	200 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>
6.	Nitrogen monoxide (NO) and nitrogen dioxide (NO <sub>2</sub> ) expressed as nitrogen dioxide for existing incineration plants with a nominal capacity exceeding 6 tonnes per hour and new incineration plants	400 mg/m <sup>3</sup>	200 mg/m <sup>3</sup>

### III. Emission limit values of heavy metals

Table 3

No.	Heavy metals and their compounds	Average emission limit values over the sample period of half-hour up to 8 hours	
		plants in which all wastes are incinerated	plants in which all hazardous wastes are incinerated
1.	Cadmium and its compounds, expressed as cadmium (Cd)	total 0.05 mg/m <sup>3</sup>	total 0.1 mg/m <sup>3</sup>
2.	Thallium and its compounds, expressed as thallium (Tl)		
3.	Mercury and its compounds, expressed as mercury (Hg)	0.05 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>
4.	Antimony and its compounds, expressed as antimony (Sb)	total 0.5 mg/m <sup>3</sup>	total 1 mg/m <sup>3</sup>
5.	Arsenic and its compounds, expressed as arsenic (As)		
6.	Lead and its compounds, expressed as lead (Pb)		
7.	Chromium and its compounds, expressed as chromium (Cr)		
8.	Cobalt and its compounds, expressed as cobalt (Co)		
9.	Copper and its compounds, expressed as copper (Cu)		
10.	Manganese and its compounds, expressed as manganese (Mn)		
11.	Nickel and its compounds, expressed as nickel (Ni)		
12.	Vanadium and its compounds, expressed as vanadium (V)		

1. All average values determined in Table 3 shall be measured over the sample period of at least half-hour, but not more than 8 hours.

2. All average values determined in Table 3 shall apply also to gaseous and vapour forms of the relevant metals as well as their compounds.

### IV. Emission limit values of dioxins and furans

3. Limit values of dioxins and furans may not exceed 0.1 ng/m<sup>3</sup>. It refers to the total concentration calculated taking into account toxic equivalence thereof in accordance with Annex 3 to this Regulation. Average values shall be measured over the sample period of at least 6 hours, but not more than 8 hours.

## V. Emission limit values of carbon monoxide

4. Carbon monoxide (CO) concentration shall not exceed in the exhaust gases (excluding the start-up and shut-down phase):

4.1. daily average value – 50 mg/m<sup>3</sup>;

4.2. average value determined during measurements of 10 minutes which is not exceeded in at least 95% of all measurements - 150 mg/m<sup>3</sup> or average value determined during measurements of 24-hour period which is not exceeded in any measurement - 100 mg/m<sup>3</sup>.

5. Deviations from the requirements of Paragraph 4 of this Annex may be determined by the regional environmental board for incineration plants using fluidised bed technology, provided that an emission limit value for carbon monoxide of not more than 100 mg/m<sup>3</sup> as an hourly average limit value.

Minister for Environmental Protection and Regional Development

R. Vējonis



**Equivalence Factors for Dibenzo-p-dioxins and Dibenzofurans**

No.	Dibenzo-p-dioxins and dibenzofurans		Toxic equivalence factor
1.	2,3,7,8	- tetrachlorodibenzodioxin (TCDD)	1
2.	1,2,3,7,8	- pentachlorodibenzodioxin (PeCDD)	0.5
3.	1,2,3,4,7,8	- hexachlorodibenzodioxin (HxCDD)	0.1
4.	1,2,3,6,7,8	- hexachlorodibenzodioxin (HxCDD)	0.1
5.	1,2,3,7,8,9	- hexachlorodibenzodioxin (HxCDD)	0.1
6.	1,2,3,4,6,7,8	- heptachlorodibenzodioxin (HpCDD)	0.01
7.		- octachlorodibenzodioxin (OCDD)	0.001
8.	2,3,7,8	- tetrachlorodibenzofuran (TCDF)	0.1
9.	2,3,4,7,8	- pentachlorodibenzofuran (PeCDF)	0.5
10.	1,2,3,7,8	- pentachlorodibenzofuran (PeCDF)	0.05
11.	1,2,3,4,7,8	- hexachlorodibenzofuran (HxCDF)	0.1
12.	1,2,3,6,7,8	- hexachlorodibenzofuran (HxCDF)	0.1
13.	1,2,3,7,8,9	- hexachlorodibenzofuran (HxCDF)	0.1
14.	2,3,4,6,7,8	- hexachlorodibenzofuran (HxCDF)	0.1
15.	1,2,3,4,6,7,8	- heptachlorodibenzofuran (HpCDF)	0.01
16.	1,2,3,4,7,8,9	- heptachlorodibenzofuran (HpCDF)	0.01
17.		- octachlorodibenzofuran (OCDF)	0.001

Note. For the determination of the total concentration of dioxins and furans referred to in this Annex, the mass concentrations of dibenzo-p-dioxins and dibenzofurans shall be multiplied by the their equivalence factors before their summing.

Minister for Environmental Protection and Regional Development

R. Vējonis

## **Calculation of Air Emission Limit Values Determined for Waste Co-incineration Plants**

### **I. General provisions**

1. The calculation formula included in this Annex is to be applied whenever a specific emission limit value has not been set out for a particular case in this Annex.
2. The emission limit value for each relevant pollutant as well as carbon monoxide in the exhaust gases resulting from the co-incineration shall be determined using the following formula:

$$\frac{V_{\text{waste}} \times C_{\text{waste}} + V_{\text{proc}} \times C_{\text{proc}}}{V_{\text{waste}} + V_{\text{proc}}} = C, \text{ where}$$

$V_{\text{waste}}$  - exhaust gas volume resulting from the incineration of waste. It is determined taking into account only the waste with the lowest calorific value determined in the permit and standardised at the conditions given by this Regulation. If the resulting heat release from the incineration of hazardous waste amounts to less than 10% of the total heat released in the plant,  $V_{\text{waste}}$  must be calculated from a notional quantity of hazardous waste that, being incinerated, would equal 10% of the total heat released during incineration;

$C_{\text{waste}}$  – emission limit values set for waste incineration plants for the relevant pollutants and carbon monoxide (Annex 2);

$V_{\text{proc}}$  – exhaust gas volume resulting from the combustion of fuels (wastes excluded). It is determined on the basis of oxygen contents in accordance with the procedures stipulated by the Cabinet by which emission of air pollutants from stationary pollution sources shall be prevented, limited and controlled;

$C_{\text{proc}}$  – emission limit values of the relevant pollutants and carbon monoxide in the exhaust gases of plants in accordance with the procedures stipulated by the Cabinet by which emission of air pollutants from stationary pollution sources shall be prevented, limited and controlled;

$C$  – total emission limit values and oxygen content in accordance with values determined in this Annex for certain pollutants and certain industrial sectors or in case of the relevant values are not determined in the Table, the total emission limit values for CO and the relevant pollutants replacing the relevant emission limit values. The total oxygen content to replace the oxygen content for the standardisation is calculated on the basis of the content above respecting the partial volumes.

### **II. Specific requirements for cement kilns co-incinerating waste**

3. Daily average emission limit values for continuous measurements shall be determined in accordance with Table 1. Sampling period and measurement conditions shall comply with the requirements of this Regulation. Half-hourly average values shall only be needed in view of calculating the daily average values.

### Total emission limit values co-incinerating waste in cement kilns

Table 1

No.	Pollutant	Total emission limit values
1.	Particulate matter (total)	30 mg/m <sup>3</sup>
2.	HCl	10 mg/m <sup>3</sup>
3.	HF	1 mg/m <sup>3</sup>
4.	NO <sub>x</sub> for existing plants	800 mg/m <sup>3</sup>
5.	NO <sub>x</sub> for new plants	500 mg/m <sup>3</sup>
6.	Cd + Tl	0.05 mg/m <sup>3</sup>
7.	Hg	0.05 mg/m <sup>3</sup>
8.	Sb +As + Pb + Cr + Co + Cu + Mn + Ni + V	0.5 mg/m <sup>3</sup>
9.	Dioxins and furans	0.1 ng/m <sup>3</sup>

4. In order to compare compliance with the emission limit values the results of the measurements shall be standardised at the following conditions:

- 4.1. temperature – 273 K;
- 4.2. pressure – 101.3 kPa;
- 4.3. oxygen content in dry gas – 10%.

5. NO<sub>x</sub> emission limit values determined for the existing plants shall be applied for cement kilns which already operate or commence waste co-incineration until 28 December 2004.

### Total emission limit values for sulphur dioxide and total organic carbon co-incinerating waste in cement kilns

Table 2

No.	Pollutant	Total emission limit values
1.	SO <sub>2</sub>	50 mg/m <sup>3</sup>
2.	Total organic carbon	10 mg/m <sup>3</sup>

6. Regional environmental board may determine exemptions in a permit in respect of SO<sub>2</sub> and total organic carbon, if emission of these substances does not take place when incinerating waste.

7. Regional environmental board shall determine emission limits for carbon monoxide.

### III. Emission limit values for incineration plants co-incinerating waste together with solid fuel

8. Half-hourly average values shall only be needed in view of calculating the daily average values.

9. C<sub>proc</sub> for solid fuel expressed in mg/Nm<sup>3</sup>, if oxygen content is 6%. It shall be determined in compliance with Table 3.

Table 3

No.	Pollutant	Nominal input heat capacity			
		< 50 MW	50–100 MW	100-300 MW	> 300 MW
1.	SO <sub>2</sub> (general case)	-	850 mg/m <sup>3</sup>	850–200 mg/m <sup>3</sup> (linear decrease of limit value upon increase of nominal input heat capacity from 100 to 300 MW)	200 mg/m <sup>3</sup>
2.	SO <sub>2</sub> (local fuel, for example, peat)	-	850 mg/m <sup>3</sup> or rate of desulphurisation <sup>3</sup> 90%	850–200 mg/m <sup>3</sup> or rate of desulphurisation <sup>3</sup> 92%	200 mg/m <sup>3</sup> or rate of desulphurisation <sup>3</sup> 95%
3.	NO <sub>x</sub>	-	400 mg/m <sup>3</sup>	300 mg/m <sup>3</sup>	200 mg/m <sup>3</sup>
4.	Particulate matter	50 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>

#### IV. Emission limit values for incineration plants co-incinerating biomass

10. C<sub>proc</sub> for biomass (products of a vegetable matter from agriculture or forestry and which can be used for the purpose of acquiring energy, as well as wastes referred to in Sub-paragraphs 3.1.1, 3.1.2, 3.1.3, 3.1.4 and 3.1.5 of this Regulation) expressed in mg/Nm<sup>3</sup>, if oxygen content is 6%. It shall be determined in compliance with Table 4.

Table 4

No.	Pollutant	Nominal input heat capacity			
		< 50 MW	50-100 MW	100-300 MW	> 300 MW
1.	SO <sub>2</sub>	-	200 mg/m <sup>3</sup>	200 mg/m <sup>3</sup>	200 mg/m <sup>3</sup>
2.	NO <sub>x</sub>	-	350 mg/m <sup>3</sup>	300 mg/m <sup>3</sup>	300 mg/m <sup>3</sup>
3.	Dust	50 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>

#### V. Emission limit values for incineration plants co-incinerating waste together with liquid fuel

11. C<sub>proc</sub> for liquid fuels expressed in mg/Nm<sup>3</sup>, if oxygen content is 3 % It shall be determined in compliance with Table 5.

Table 5

No.	Pollutant	Nominal input heat capacity			
		< 50 MW	50-100 MW	100-300 MW	> 300 MW
1.	SO <sub>2</sub>	-	850 mg/m <sup>3</sup>	850–200 mg/m <sup>3</sup> (linear decrease of limit value upon increase of nominal input heat capacity from 100 to 300 MW)	200 mg/m <sup>3</sup>
2.	NO <sub>x</sub>	-	400 mg/m <sup>3</sup>	300 mg/m <sup>3</sup>	200 mg/m <sup>3</sup>
3.	Dust	50 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>

### VI. Emission limit values when co-incinerating waste

12. Total emission limit values C, expressed in mg/Nm<sup>3</sup>, if oxygen content is 6%, shall be determined in compliance with Table 6. All average values shall be determined over the sample period of a minimum of half-hour and a maximum of 8 hours.

Table 6

No.	Pollutant	Total emission limit values
1.	Cd + Tl	0.05
2.	Hg	0.05
3.	Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V	0.5

13. Total emission values for dioxins and furans expressed in ng/Nm<sup>3</sup>, if oxygen content is 6%, shall not exceed 0.1. All average values shall be determined over the sample period of a minimum of 6 hours and a maximum of 8 hours.

### VII. Special provisions for industrial sectors co-incinerating waste (except those referred to in this Annex)

14. Total emission limit values for dioxins and furans expressed in ng/Nm<sup>3</sup> shall not exceed 0.1. All average values shall be determined over the sample period of a minimum of 6 hours and a maximum of 8 hours.

15. Total emission limit values expressed in mg/Nm<sup>3</sup> shall be determined in compliance with Table 7. All average values shall be determined over the sample period of a minimum of half-hour and a maximum of 8 hours.

### Emission limit values in the waste co-incineration process

Table 7

No.	Pollutant	Total emission limit values
1.	Cd + Tl	0.05
2.	Hg	0.05

Minister for Environmental Protection and Regional Development

R. Vējonis

**Emission Limit Values After Purification of Waste Water Resulting from the Cleaning Process of Exhaust Gases**

No.	Polluting substance	Emission limit values expressed in mass concentrations for unfiltered samples	
1.	Total suspended substances	30 mg/l (95 %)	45 mg/l (100 %)
2.	Mercury and its compounds, expressed as mercury (Hg)	0.03 mg/l	
3.	Cadmium and its compounds, expressed as cadmium (Cd)	0.05 mg/l	
4.	Thallium and its compounds, expressed as thallium (Tl)	0.05 mg/l	
5.	Arsenic and its compounds, expressed as arsenic (As)	0.15 mg/l	
6.	Lead and its compounds, expressed as lead (Pb)	0.2 mg/l	
7.	Chromium and its compounds, expressed as chromium (Cr)	0.5 mg/l	
8.	Copper and its compounds, expressed as copper (Cu)	0.5 mg/l	
9.	Nickel and its compounds, expressed as nickel (Ni)	0.5 mg/l	
10.	Zinc and its compounds, expressed as zinc (Zn)	1.5 mg/l	
11.	Dioxins and furans, defined as the sum of the individual dioxins and furans calculated in accordance with Annex 3 to this Regulation	0.3 ng/l	

Minister for Environmental Protection and Regional Development

R. Vējonis

### **Emission Concentration Calculation**

Emission concentration at the standard percentage oxygen concentration shall be calculated using the following formula:

$$E_s = \frac{21 - O_s}{21 - O_m} \times E_m, \text{ where}$$

$E_s$  – calculated emission concentration at the standard percentage oxygen concentration;

$E_m$  – measured emission concentration;

$O_s$  – standard oxygen concentration;

$O_m$  – measured oxygen concentration.

Minister for Environmental Protection and Regional Development

R. Vējonis