

**REGULATION № 6  
FROM 28.07.2004**

**On the conditions and the requirements for construction and operation of  
installations for incineration and installations for co-incineration of waste**

**Chapter one  
GENERAL CONDITIONS**

**Article 1.** The Regulation defines the conditions and the requirements for the construction and the operation of installations for incineration and installations for co-incineration of waste in order to prevent, to reduce and/or to limit, to maximal possible degree, the pollution of the environment, including the discharged as result of the incineration emissions of harmful substances into air, soil, surface water and groundwater, and the resulting risks to human health.

Article 2. (1) The requirements of the Regulation shall be applied for the installations for incineration and the installations for co-incineration of waste.

(2) The requirements of the Regulation shall not be applied for:

1. an installation according to paragraph 1, in which are incinerated only:

a) vegetable waste from the forestry and the agriculture;

b) vegetable waste from the food processing industry, if the heat generated at the incineration is recovered;

c) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered;

d) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating;

e) cork waste;

f) radioactive waste;

g) animal carcasses;

h) waste resulting from the exploration for, and the exploitation of, oil and gas resources from off-shore installations and incinerated on board the installation.

2. Experimental plants used for research, development and testing in order to improve the incineration process and which treat less than 50 tonnes of waste per year.

(3) The requirements of Article 5, paragraph 2 and Article 9, concerning the incineration and the co-incineration of hazardous waste, shall not be applied for the following hazardous waste:

1. combustible liquid wastes including waste oils as defined of the Regulation according to Article 24, paragraph 2 of the Waste Management Act (WMA) which meet the following criteria:

a) the mass content of polychlorinated aromatic hydrocarbons, e.g. polychlorinated biphenyls and terphenyls (PCB/PCTs) or pentachlorinated phenol (PCP) amounts to concentrations not higher than 50 mg/kg;

b) wastes which are not rendered hazardous by virtue of containing other constituents listed in Annex № 5 of Regulation № 3 from 2004 for classification of the waste (published in State Gazette, №44/2004) in quantities or in concentrations

over the limit values according to the Annex № 3 of Regulation № 3 and are consistent with the achievement of the objectives set out in Article 58 of the Law for Protection of the Environment (LPE);

c) wastes which possess the net calorific value amounts to at least 30 MJ per kilogramme.

2. any combustible liquid wastes, other than the listed in point 1, at which combustion the emissions of harmful substances are not higher than the emissions resulting from the combustion of gasoil according to the definition of § 1, point 2 from The Additional Provision of the Regulation on the requirements for the qualities of the liquid fuels, the conditions, the order and the way for their control, accepted with Decree № 156 /15.06.2003 of the Council of the Ministers (published in State Gazette. № 66/2003).

(4) Depending on the type of the relevant installation for incineration or installation for co-incineration, the condition according to paragraph 3, point 2 concerns the emissions in the waste gases of all standardized harmful substances (pollutants) according to Annex № 1 or Annex № 2 of the Regulation, resulting from the incineration or the co-incineration of hazardous waste.

(5) For accomplishing activities in experimental installations according to paragraph 2, point 2 is required a permit, issued according to the provisions of Article 37 of WMA.

## **Chapter two**

### **PERMITTING THE ACTIVITIES FOR INCINERATION AND CO-INCINERATION OF WASTE**

Article 3. (1) For accomplishing activities for recovery and/or disposal of waste in installations for incineration or installations for co-incineration is required:

1. a permit, issued according to the provisions of Article 37 of WMA  
or

2. an IPPC permit, issued according to the provisions of Chapter seven, Section II of LPE.

(2) For construction and operation of installations for incineration or installations for co-incineration of waste, falling in the scope of Chapter seven, Section II of LPE is required an IPPC according to paragraph 1, point 2.

(3) The investment project, the construction permission, the construction and the induction in operation of the installations for incineration or the installations for co-incineration of waste shall be carried out according to the provisions of the Law for the Development of the Territory, after the procedure for assessment of the impact on the environment (AIE) according to the provisions of Chapter six of LPE.

(4) In the document, according to Article 39, point 4 of WMA, that shall be attached to the application for granting the permit according to paragraph 1, point 1, are pointed the project solutions of the installations, the used equipment and the technological regimes of its operation at the incineration of the different types of waste.

(5) In the program for management of the activities with waste, which shall be attached to the application for granting a waste activities permit or an IPPC permit according to paragraph 1, shall include measures which are envisaged to guarantee:

1. that the heat generated during the incineration and co-incineration process is recovered as far as practicable e.g. through combined heat and power, the generating of process steam or district heating or for other purposes;
2. that the amount and harmfulness of the residues from the incineration and their recovery will be minimized;
3. disposal of the residues from the incineration, which cannot be recycled or which cannot be prevented.

Article 4. The permits and the IPPC permits according to Article 3, paragraph 1 shall be granted by the competent authorities when the information in the submitted application in accordance with Article 38 of WMA or Article 122 of LPE proves that the proposed methods for sampling and methods and instruments for measurement of the emissions of dangerous substances into the air and the emissions of harmful and hazardous substances in the waste waters comply with the requirements according to Annex № 3.

Article 5. (1) In the framework of the relevant conditions according to Article 42, paragraph 2 of WMA or Article 123 of LPE, except for the conditions according to Article 4, in the permits or the IPPC permits according to Article 3, paragraph 1 for incineration or co-incineration of waste shall be included also:

1. type and amount of the waste, which are allowed for treatment in the relevant installation – following the codes from the list according to Annex 1 of Regulation № 3 from 2004 for classification of the waste;
2. total capacity of the installation for incineration or co-incineration of waste;
3. sampling methods and methods and means for measurement of the emissions of harmful substances in the waste gases and the emissions of harmful and hazardous substances in the waste waters for accomplishing own measurements, set out with the Regulation.

(2) In the permits or in the IPPC permits according to Article 3, paragraph 1 for incineration or co-incineration of hazardous waste, except the requirements according to paragraph 1 for each separate type hazardous waste shall be specified also the minimum and maximum mass flows of those hazardous wastes, their lowest and maximum calorific values and their maximum contents of pollutants, e.g. PCB/PCTs, PCP, chlorine, fluorine, sulphur, heavy metals.

Article 6. Where the operator of an incineration or co-incineration plant for non-hazardous waste is envisaging a change of operation which would involve the incineration or co-incineration of hazardous waste, this shall be regarded as a substantial change within the meaning of § 1, point 41 of the Additional Provisions of LPE.

### **Chapter three**

## **RECEPTION OF WASTE**

Article 7. The operator of the incineration or co-incineration plant shall take all necessary precautions concerning the delivery and reception of waste in order to prevent or to limit as far as practicable negative effects on the environment, in particular the pollution of air, soil, surface water and groundwater as well as odours and noise, and direct risks to human health.

Article 8. (1) The operators на installations for incineration or installations for co-incineration shall measure at acceptance of the delivered waste its amount as mass.

(2) If possible the measurement of the amount according to paragraph 1 is carried out for each type of waste according to the codes from the list according to Annex № 1 of Regulation № 3 from 2004 for classification of the waste.

Article 9. (1) Prior to accepting the delivered hazardous waste the operators of installations for incineration and installations for co-incineration shall :

1. check the following accompanying the waste documentation:

a) transport card, approved with the provision according to Article 27, paragraph 1 of WMA;

b) movement document after the pattern approved with the Regulation according to Article 72, paragraph 2 of WMA, in cases of import of the waste;

c) transport document for hazardous loads according to Regulation № 40 from 2004 г. for the conditions and the order for accomplishment of automobile transportation of hazardous loads (published in State Gazette, №15/2004) or Regulation № 46 from 2001 for railway transportation of hazardous loads (published in State Gazette, №107/2001), as also the international legal acts for transportation of hazardous loads, ratified from Republic of Bulgaria with a Law.

2. have available information about the type and the amount of the hazardous waste, for the purpose of ensuring the adherence to the conditions specified in the permit or in the IPPC permit for the relevant installation according to Article 5, paragraph 2;

3. take before unloading representative samples for analysis and verification of the compliance of the waste with the data provided for in point 2, including identifying the type of the accepted for treatment waste, also by the competent authorities.

(2) The information according to paragraph 1, point 2 shall cover:

1. data for the person, at which activities the waste is generated, its origin and the technological processes, from which it is generated, consisting in the documentation according to paragraph 1, point 1;

2. data for the physical characteristics and the chemical composition of the waste, and all other information necessary to evaluate its suitability for the intended incineration process;

3. the characteristics according to Annex № 2 of Regulation № 3 from 2004 for classification of the waste, which define the waste as hazardous;

4. the substances with which it cannot be mixed, and the precautions to be taken in handling the waste.

(3) The samples according to paragraph 1, point 3, shall be taken if possible separate for each type of waste following the codes from the list according to Annex № 1 of Regulation № 3 from 2004 for classification of the waste.

(4) The samples according to paragraph 1, point 3 shall be kept by the operators not less than one month after the date of the incineration of the relevant waste.

(5) The information according to paragraph 1 and 2, including the results from the performed analysis shall be kept by the operator in term of 5 years.

(6) The requirement according to paragraph 1, point 3 shall not be applied at reception of biological waste and waste, classified as infectious according to Annex № 2 of Regulation № 3 from 2004 for classification of the waste.

Article 10.(1) The requirements of Article 8 and 9 may not be applied at reception of waste, generated and incinerated including co-incinerated at one and the same place and are ownership of the operator of the installation for incineration or the installation for co-incineration of waste.

(2) The exemptions from the requirements of Article 8 and 9 according to paragraph 1 shall be granted by the competent authorities with the issued permits or IPPC permits according to Article 3, paragraph 1.

#### **Chapter four**

#### **CONDITIONS FOR DESIGN, CONSTRUCTION AND OPERATION**

Article 11. (1) The installations for incineration shall be designed, built and/or operated in order to achieve a level of incineration such that the slag and bottom ashes Total Organic Carbon (TOC) content is less than 3 % or their loss on ignition is less than 5 % of the dry weight of the material.

(2) For ensuring the achievement of the level of incineration according to the preceding paragraph shall be used appropriate techniques for waste pretreatment as smashing, dust-spreading, mixing etc.

Article 12. (1) The installations for incineration of waste shall be designed, built and/or operated in such a way that:

1. After the last injection of combustion air in the combustion chamber for the incineration process, the temperature of the homogeneous gas mixture, resulting from the mixing of the injected air and the gases from the incineration process, reaches in a controlled fashion to a temperature of 850 °C.

2. The time for the stay of the homogeneous gas mixture at the indicated in point 1 temperature shall be not shorter than two seconds.

(2) The installations for incineration of waste shall be designed, built and/or operated in such a way that:

1. the gases from the incineration process reach in a controlled fashion to a temperature of 850 °C;

2. The time for the stay of the gases at the indicated in point 1 temperature shall be not shorter than two seconds.

(3) If hazardous wastes with a content of more than 1 % of halogenated organic substances, expressed as chlorine, are incinerated, the temperature has to be raised to 1 100 °C for at least two seconds.

(4) The temperature in the installations for incineration shall be measured near the inner wall or at another representative point of the combustion chamber as authorised by the competent authority with the permits or the IPPC permits according to Article 3, paragraph 1.

Article 13. (1) Each line of the incineration plant shall be equipped with at least one auxiliary burner.

(2) The auxiliary burners according to paragraph 1 must be switched on automatically when the temperature of the combustion gases after the last injection of combustion air falls below the relevant values according to Article 12, paragraph 1, point 1 or Article 12, paragraph 3.

(3) The auxiliary burners according to paragraph 1 shall maintain the relevant minimal values for the temperature Article 12, paragraph 1, point 1 or Article 12, paragraph 3 at all times during start-up and shut-down operations and as long as unburned waste is in the combustion chamber.

(4) In cases according to paragraph 2 and paragraph 3 the auxiliary burners shall be fed only with natural gas, liquefied gas or gasoil.

Article 14. (1) The installations for incineration and the installations for co-incineration shall be equipped with an automatic system to prevent waste feed:

(2) Automatically the feed of waste for incineration is stopped in the following cases:

1. at start-up of the installations for incineration or the installations for co-incineration – until reaching the relevant minimal temperature according to Article 12, paragraph 1-3 or the specified by the competent authorities compulsory minimal temperature according to Article 15 or Article 16;

2. at each fall of the temperature under the relevant minimal values according to Article 12, paragraph 1-3 or the specified by the competent authorities compulsory minimal temperature съгласно Article 15 or Article 16;

3. at each excess of one or more of the set out in the Regulation standards for the acceptable emissions of harmful substances, discharged into air due to disturbances or failures of the purification devices, registered at the accomplishment of the compulsory continuous measuring according to the provisions of Chapter nine.

Article 15. The competent authorities may authorize with the granted permits or IPPC permits according to Article 3, paragraph 1 the application of requirements, different from these according to Article 12, paragraph 1 and paragraph 3 and Article 13 for certain types of waste or thermal processes, used in installation for incineration, provided that:

1. the other requirements of the Regulation are met;

2. the resulting from the incineration waste residues are not more and do not have a higher content of organic pollutants compared to those residues which could be expected under the requirements according to Article 12, paragraph 1 and paragraph 3 and Article 13.

Article 16. The competent authorities may authorize with the granted permits or IPPC permits according to Article 3, paragraph 1 the application of requirements, different from these according to Article 12, paragraph 2 and paragraph 3 and Article 13 for certain types of waste or thermal processes, used in installation for incineration, provided that:

1. the standards for emission limit values of CO оксид and organic compounds as total organic carbon according Annex № 1;

2. the waste, generated by the pulp and paper industry, are co-incinerated at the place of its production in the existing bark boilers under the condition of point 1.

Article 17. In the cases according to Article 15 and Article 16 the competent authorities shall determine with the granted permits or IPPC permits the minimal temperature and the time for stay of the generated at the incineration gases, which are compulsory for observing at the operation на съответните installations for incineration or installations for co-incineration.

(2) the minimal temperature and the residence time laid down in the precedent paragraph shall be determined in such way that their observing shall ensure compliance with the requirements according to Article 15 and Article 16.

Article 18. (1) The installations for incineration shall be designed, built and/or operated in such a way as to prevent emissions into the air giving rise to significant ground-level air pollution;

(2) exhaust gases shall be discharged in controlled fashion by means of stacks.

(3) the height of the stacks according paragraph 2 is calculated in compliance with the Methodics for calculation of the stacks, the spreading and the expected concentration of pollutants in the ground-level air, issued on grounds of Article 11, paragraph 3 of the Law for the air purity (LAP).

(4) the height of the stacks according to paragraph 2 shall comply with the standards for the content of pollutants in the air, laid down with the provisions according to Article 6 of LAP.

Article 19. (1) The heat resulting from the operation на installations for incineration or installations for co-incineration shall be recovered.

(2) In cases when the accomplishment of the requirement of paragraph 1 is not practicable, the competent authorities may authorize with the granted permits or IPPC permits according to Article 3, paragraph 1 exceptions from its application in the different installations.

Article 20. Infectious clinical waste should be placed straight in the furnace, without first being mixed with other categories of waste and without direct handling.

Article 21. (1) The operation на installations for incineration or installations for co-incineration of waste shall be accomplished by qualified staff in accordance with the requirements of the legislative acts for healthy and safety labour conditions for the different activities, types of operations and equipment, related with the treatment of the waste.

(2) The operators на installations for incineration or installations for co-incineration of waste shall develop and approve instructions for the safety and healthy labour conditions for the separate categories work places.

(3) The requirements to the qualification of the staff shall be defined in their position description.

(4) The management of the installations for incineration and the installations for co-incineration of waste shall be in the hands of a natural person who is competent to manage the plant.

## **Chapter five**

### **STANDARDS FOR THE AIR EMISSION LIMIT VALUES**

Article 22. (1) The installations for incineration shall be designed, built and/or operated in such a way that the content of pollutants in the exhaust gas shall not exceed the emission limit values (ELV) set out in Annex № 1.

(2) The competent authorities may authorize with the granted permits or IPPC permits according to Article 3, paragraph 1 deviations from the application of ELV according to point 5.1 and 5.2 of Annex № 1 for installations for incineration in boiling layer, provided that the emissions of carbon monoxide from these installations do not exceed ELV from 100 mg/Nm<sup>3</sup>, determined as average hour value.

Article 23. (1) The installations for incineration shall be designed, built and/or operated in such a way that the content of pollutants in the exhaust gas shall not exceed the emission limit values according to Annex № 2.

(2) If in a co-incineration plant more than 40 % of the resulting heat release comes from hazardous waste, the emission limit values set out in Annex № 1 shall apply for the installations according to paragraph 1.

(3) The emission limit values set out in Annex № 1 shall apply for the installations according to paragraph 1 for co-incineration of mixed municipal waste.

(4) The competent authorities may authorize with the granted permits or IPPC permits according to Article 3, paragraph 1 deviations from the application of ELV according to point 3.3 of Annex № 2 for the cement kilns, co-incinerating waste, in cases when the operator proves with the submitted application form and the attached documents that SO<sub>2</sub> and TOC are not generated at the incineration of waste.

Article 24. The results from the measurements for verification of the compliance with the ELV shall be regarded under the conditions according to Article 45.

## **Chapter six**

### **EMISSION LIMIT VALUES FOR ACCEPTABLE CONTENT OF POLLUTANTS IN THE WASTE WATER**

Article 25. (1) The installations for incineration shall be designed, built and/or operated in such a way that to prevent or to limit the **water discharges from the cleaning of exhaust gases to water basins**.

(2) In cases when the technical conditions do not allow prevention according to paragraph 1, the waste water **from the cleaning of exhaust gases** of the installations for incineration and installations for co-incineration of waste may be discharged to aquatic environment after such treatment at which the content of harmful and hazardous substances in the waste water does not exceed the individual ELV determined in the IPPC permit according to Article 3, paragraph 1, point 2 or in the permit for discharge of waste water to aquatic environment, granted according the provision of Chapter four of Waters Act and Regulation № 10 from 2001 for granting permits for discharge of waste water to aquatic environment and determination of the individual ELV of spot sources of pollution (published in State Gazette, №66/2001).

(3) The individual ELV according to paragraph 2 shall not be less stringent than the emission limit values for acceptable content of harmful and hazardous substances in the waste water **from the cleaning of exhaust gases** according to Annex № 4.

(4) The installations for incineration and the installations for co-incineration of waste shall be designed, built and/or operated in such a way that shall ensure the observation of the limit values for acceptable content of pollutants in the contract for discharge of waste water to the sewage system, concluded with the operator of the sewage system according to Regulation № 7 from 2000 for the conditions and the order for discharge of industrial waste water to the sewage systems of the settlements (published in State Gazette, №98/2000), when the waste water is discharged or it is envisaged to be discharged to the sewage system of the settlement.

Article 26. For discharge of waste water it is required that the installations for incineration or the installations for co-incineration of waste shall possess:

1. at discharge to aquatic environment – a permit granted according Article 46, paragraph 1 of the Waters Act and Regulation № 10 from 2001 on granting permits for discharge of waste water to aquatic environment and determination of the individual ELV at the spot sources of pollution or an IPPC permits according Article 3, paragraph 1, point 2;

2. at discharge to the sewage system – contract, concluded under the provision of Article 4 of Regulation № 7 from 2000 of the Minister of the



environment and water for the conditions and the order for discharge of industrial waste water to the sewage systems of the settlements (published in State Gazette, №98/2000)

Article 27. (1) With the permits according to Article 26, point 1 are determined the condition for compliance with the requirements according to Article 25, paragraph 2.

(2) With the permits or the IPPC permits according according to Article 3, paragraph 1 are determined the condition for adherence to:

1. operational control parameters (pH, temperature and flow) for management of the waste water treatment;

2. other operational control parameters for management of the waste water treatment, which are necessary regarding the specific technical conditions in the relevant water treatment plant.

Article 28. (1) In cases when the waste water from the **cleaning of exhaust gases** is treated on the site of the installation for incineration or the installation for co-incineration:

1. in a treatment facility, designed only for it, the individual ELV according to Article 25, paragraph 2 are applied to the spot where the waste water streams out the installations for incineration or the installations for co-incineration of waste;

2. together with other waste water from the same installation in the collective waste water treatment plant, the measurings pointed in Chapter nine are accomplished:

a) on the waste water stream from the exhaust gas cleaning processes prior to its input into the collective waste water treatment plant;

b) on the other waste water stream or streams prior to its or their input into the collective waste water treatment plant;

(c) at the point of final waste water discharge, after the treatment, from the incineration plant or co-incineration plant.

(2) In the cases according to paragraph 1, point 2 the operator shall take appropriate mass balance calculations in order to determine the emission levels in the final waste water discharge that can be attributed to the waste water arising from the cleaning of exhaust gases in order to check compliance with the emission limit values set out in Annex IV for the waste water stream from the exhaust gas cleaning process.

Article 29. When waste water from the cleaning of exhaust gases are treated outside the incineration or co-incineration plant at a treatment plant:

1. the individual emission limit values according to Article 25 shall to be applied at the point where the waste waters leave the treatment plant, intended only for the treatment of this sort of waste water.

2. the operator shall take the appropriate mass balance calculations in order to determine the emission levels in the final waste water discharge at the point where the waste waters leave the treatment plant that can be attributed to the waste water arising from the cleaning of exhaust gases order to check compliance with the emission limit values set out in Annex № 4 If this off-site treatment plant is not only dedicated to the treatment of waste water from installations for incineration or installations for co-incineration.

Article 30. Under no circumstances shall dilution of waste water take place for the purpose of complying with the emission limit values according to Article 25, paragraph 2.

Article 31. (1) Incineration and co-incineration plant sites, including associated storage areas for wastes, shall be designed and operated in such a way as:

1. to prevent the accidental release of any polluting substances into soil, surface water and groundwater

2. not to admit an unauthorised release of any polluting substances.

(2) storage capacity shall be provided for contaminated rainwater run-off from the incineration or co-incineration plant site or for contaminated water arising from spillage or fire-fighting operations.

(3) The storage capacity according to paragraph 2 and the residence time of the waste water in it shall be adequate to ensure that such waters can be tested and treated before discharge where necessary.

## **Chapter seven RESIDUES FROM THE INCINERATION**

Article 32. (1) The operators на installations for incineration and installations for co-incineration of waste shall take measures to minimise in the amount and harmfulness of the residues resulting from the operation of the incineration or co-incineration plant in accordance with the best practice.

(2) Residues according to paragraph 1 which generation can not be prevented, shall be recycled, where appropriate, directly in or outside the relevant installation for incineration or installation for co-incineration.

(3) When the requirement of paragraph 2 is not applicable the residues from the incineration shall be disposed according to the requirements of the WMA and the secondary legislative acts for its implementation.

Article 33. Transport and intermediate storage of dry residues in the form of dust (such as boiler dust and dry residues from the treatment of combustion gases etc.), shall take place in closed containers or in such a way as to prevent dispersal in the environment.

Article 34.(1) The routes for the disposal or recycling of the residues from the operation на the installation for incineration or co-incineration shall be determined on the basis of analysis of their physical and chemical characteristics and the risk for the human health and for pollution of the environment.

(2) The analysis according to paragraph 1 shall concern the total soluble fraction and heavy metals soluble fraction.

## **Chapter eight CONTROL AND MONITORING**

Article 35. The installations for incineration and the installations for co-incineration of waste shall be equipped with measurement equipment and measurement techniques shall be used in order to monitor the established with the Regulation compulsory technical parameters, operational conditions, ELV and emission levels.

Article 36. The requirements to the measurement of the emissions of harmful and/or dangerous substances from the installations for incineration and the installations for co-incineration shall be laid down with the conditions in the permits

and the IPPC permits according to Article 3, paragraph 1 and/or the permits according to Article 26, point 1.

Article 37. The situation of the point for sampling or for measurement shall be defined by the competent authorities with the granted permits and IPPC permits according to Article 3, paragraph 1 and/or permits according to Article 26, point 1.

Article 38. (1) The appropriate installation and the functioning of the automated monitoring equipment for emissions into air and water shall be subject to control and to an annual surveillance test.

(2) The control and the testings according to the precedent paragraph shall be assigned by the operator to and shall be accomplished by accredited persons and laboratories, owning certificate for accomplishment of these activities, granted by the Executive Agency "Bulgarian department for accreditation".

(3) The calibration of the measurement equipment has to be done by means of parallel measurements with the reference methods at least every three years.

Article 39. The periodic measurements for determination of the emissions harmful substances in the air and the waste water shall be accomplished under the conditions no point 1 and point 2 of Annex № 3.

### **Chapter nine**

#### **REQUIREMENTS TO THE MEASUREMENTS OF THE EMISSIONS**

Article 40. At observing the conditions according to Annex № 3, the emissions of harmful substances emitted into the air from the installations for incineration or the installations for co-incineration of waste and the related with the technological parameters, shall be subject to the following measurements:

1. continuous measurements of the following substances: NO<sub>x</sub>, provided that emission limit values are set, CO, total dust, TOC, HCl, HF, SO<sub>2</sub> - in cases, when there are determined the ELV;

2. at least two measurements per year of heavy metals, dioxins and furans; one measurement at least every threemonths shall however be carried out for the first 12 months of operation;

3. continuous measurements of the following process operation parameters: flow, pressure, temperature, concentration of oxygen and water vapour content of the exhaust gas;

4. continuous measurements of temperature according to Article 12, Article 14 and Article 17 near the inner wall or at another representative point of the combustion chamber according to Article 12, paragraph 4.

Article 41. The oxygen content, the residence time as well as the minimum temperature of the exhaust gases shall be subject to appropriate verification, at least once when the incineration or co-incineration plant is brought into service and under the most unfavourable operating conditions anticipated.

Article 42. (1) The continuous measurement of HF according to Article 40, point 1 may be omitted if treatment stages in the relevant installation for incineration or installation for co-incineration for HCl are used which ensure that the emission limit value for HCl is not being exceeded.

(2) In the cases according to paragraph 1 the emissions of HF shall be subject to periodic measurements at least 2 time per year, as in the first 12 months of the operation of the installation one measurements shall be accomplished every 3 months.

Article 43. (1) The continuous measurement of the water vapour content according to Article 40, point 3 shall not be required if the sampled exhaust gas is dried before the emissions are analysed.

(2) In the case of paragraph 1 the water vapour content shall be measured periodically.

Article 44. (1) The competent authorities may authorize with the granted permits or IPPC permits according to Article 3, paragraph 1 the replacement of the continuous measuring of HCl, HF and SO<sub>2</sub> according to Article 40, point 1 with periodic measurements if the operator can prove with the submitted application and the attached documents that the emissions of those pollutants can under no circumstances be higher than the prescribed emission limit values.

(2) In the cases of paragraph 1 the periodical measurements shall be carried out at least twice a year as one measurement at least every three months shall however be carried out for the first 12 months of operation.

Article 45. (1) The results from the measurements of the the emissions pollutants and the related with them technological parameters according to Article 40 shall be standardized at the following conditions:

1. in installations for incineration of waste oils - temperature 273 K, pressure 101,3 kPa, 3% oxygen, dry gas;

2. in the other installations for incineration - temperature 273 K, pressure 101,3 kPa, 11% oxygen, dry gas.

(2) when the wastes are incinerated or co-incinerated in an oxygen-enriched atmosphere, the results of the measurements can be standardised at an oxygen content laid down by the competent authorities with the permits or IPPC permits according to Article 3, paragraph 1 depending on the characteristics of the individual installation.

(3) At incineration of waste in installations for co-incineration the results of the measurements shall be standardised at a total oxygen content as calculated in point 1 of Annex № 2.

(4) When the emissions of pollutants are reduced by exhaust gas treatment in an incineration or co-incineration plant treating hazardous waste, the standardisation with respect to the oxygen contents provided for in paragraph 1 shall be done only if the oxygen content measured over the same period as for the pollutant concerned exceeds the relevant standard oxygen content provided in paragraph 1.

(5) In cases of the precedent paragraph the standardisation with respect to the oxygen content shall be accomplished according to the formula pointed in Annex № 5.

Article 46. (1) All measurement results shall be recorded, processed and presented to the competent authority who granted permit according to Article 3, paragraph 1 or to the competent authority for control on the IPPC permit according to Article 3, paragraph 1, point 2, as a report that allows him to control the observing of the conditions, determined in the permits or the IPPC permits, as well as the observing of the operational conditions, the acceptable emission limit values and the emission limit values, established with the Regulation.

(2) The report according to paragraph 1 for the previous year shall be presented by the operator of the installation for incineration or the installation for co-incineration until 31st of March of the current year.

Article 47. The emission limit values for air shall be regarded as being complied with if:

1. none of the daily average values exceeds any of the emission limit values set out in point 1 of Annex № 1 or these in Annex № 2 and 97% of the daily average value over the year does not exceed the emission limit value set out in point 5.1 of Annex № 1;

2. either none of the half-hourly average values exceeds any of the emission limit values set out in column A of table 2 of point 2 of Annex № 1 or 97% of the half-hourly average values over the year do not exceed any of the emission limit values set out in column B of table 2 of point 2 of Annex № 1;

3. none of the average values over the sample period set out for heavy metals and dioxins and furans exceeds the emission limit values set out in point 3 and 4 на Annex № 1 or Annex № 2;

4. the requirements of point 5.2 of Annex № 1 or of Annex № 2 are met.

Article 48. (1) The half-hourly average values and the 10-minute averages shall be determined within the effective operating time of the installation for incineration or the installation for co-incineration (excluding the start-up and shut-off periods if no waste is being incinerated) from the measured values after having subtracted the value of the confidence interval specified in point 3 of Annex № 3.

(2) The daily average values shall be determined from the validated average values according to paragraph 1.

(3) as a valid daily average values shall be regarded these, which are calculated on the basis of at least 43 half-hourly average values in a day e.g. no more than five half-hourly average values in any day shall be discarded due to malfunction or maintenance of the continuous measurement system.

(4) No more than ten daily average values per year shall be discarded due to malfunction or maintenance of the continuous measurement system.

Article 49. The average values over the sample period and the average values in the case of periodical measurements of HF, HCl and SO<sub>2</sub> shall be determined in accordance with the requirements of Article 36 and Article 37 and the conditions of Annex № 3.

Article 50. At the points determined in Article 28, paragraph 1 and Article 29, point 1, the following measurements of waste water from the cleaning of the exhaust gas from the installations for incineration or the installations for co-incineration shall be carried out:

1. continuous measurements of the parameters referred to in Article 27, paragraph 2;

2. spot sample daily measurements of total suspended solids according to point 1 of Annex № 4 with a flow proportional representative sample over a period of 24 hours;

3. at least monthly measurements of a flow proportional representative sample of the discharge over a period of 24 hours of the polluting substances referred to in points from 2 to 10 of Annex № 4;

4. at least every six months measurements of the substances according to point 11 of Annex № 4; however one measurement at least every three months shall be carried out for the first 12 months of operation.

Article 51. (1) The monitoring of the treated waste water from the the installations for incineration or the installations for co-incineration shall be done in conformity with Article 174 of the Waters Act.

(2) The measurments regarded to in Article 50, point 1, as well as the order for its accomplishment shall be reflected in the permit or the IPPC permit according to Article 3, paragraph 1.

(3) The measurments regarded to in Article 50, point 2-4, as well as the order and its frequency shall be reflected in the permits according to Article 26, point 1.

Article 52. The individual emission limit values according to Article 25, paragraph 2 for acceptable content of harmful and hazardous substances in the waste water from the cleaning of the exhaust gas are complied; the measured values do not exceed the following requirements:

1. for substances according to Article 50, point 2 - simultaneously In reply to the requirements for 95%, and for 100% of all measurements according to Annex № 4;

2. for substances according to Article 50, point 3 – for more than one measurement or in more than 5% from all the measurements during the year;

3. for substances according to Article 50, point 4 – in none of the measurements.

Article 53. In cases when the measurements taken show that the emission limit values for air or water laid down in this Regulation the operators shall inform the competent authorities on the measured exceedings without delay in written.

## **Chapter ten**

### **DEVIATIONS FROM THE NORMAL OPERATING CONDITIONS**

Article 54. The competent authorities shall lay down in the granted by them permits or IPPC permits according to Article 3, paragraph 1 the maximum permissible period of any technically unavoidable stoppages, disturbances, or failures of the purification devices or the measurement devices, during which the concentrations in the discharges into the air and the purified waste water of the substances may exceed the prescribed with this Regulation emission limit values.

Article 55. In the case of a breakdown, the operator shall reduce or close down operations of the installation for incineration or co-incineration of waste as soon as practicable until normal operations can be restored.

Article 56. (1) The installation for incineration or the installation for co-incineration or incineration line shall under no circumstances continue to incinerate waste for a period of more than four hours uninterrupted where emission limit values are exceeded in accordance with the requirements of Article 14, paragraph 2, point 3;

(2) the cumulative duration of operation in conditions according to paragraph 1 over one year shall be less than 60 hours, regardless of the number of the measured exceeding of the ELV.

(3) The restriction for 60-hour duration over one year of the general duration of the relevant periods of operation according to paragraph 2 applies to those lines of the entire plant, which are linked to one single flue gas cleaning device.

Article 57. At the operation of installations for incineration or co-incineration of waste, it shall under no circumstances be allowed the exceeding of:

1. the total dust content of the emissions into the air (dust particles) from 150 mg/Nm<sup>3</sup>, reflected as half-hourly average value;

2. the air emission limit values for CO and TOC

3. The requirements to the operational conditions set out in the permit or the IPPC permit according to Article 3, paragraph 1.

## **Chapter eleven**

## ACCESS TO INFORMATION AND PUBLIC PARTICIPATION

Article 58. The operators of installations for incineration or co-incineration of waste with a nominal capacity of two tonnes or more per hour shall make the report according to Article 46 of Chapter two of LPE available to the public.

Article 59. The competent authorities shall prepare a list of the installations for incineration and the installations for co-incineration of waste with a nominal capacity of less than two tonnes per hour and shall make it available to the public.

Article 60. (1) From the date of enforcement of this Regulation at interval of three years the Minister of the environment and water shall develop a report about the results from the precedent three-years period of its implementation.

(2) The report according to paragraph 1 shall be developed not later than 9 months from the end of the reviewed in it three-years period.

(3) The access to the reports shall be provided under the provisions of LPE.

## ADDITIONAL PROVISIONS

§ 1. Within the meaning of this Regulation:

1. “installation for incineration” means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of wastes with or without recovery of the combustion heat generated. The installation for incineration includes the site and the entire incineration plant including all incineration lines, waste reception, storage, on site pretreatment facilities, waste-fuel and air supply systems, boiler, facilities for the treatment of exhaust gases, on-site facilities for treatment or storage of residues and waste water, stack, devices and systems for controlling incineration operations, recording and monitoring incineration conditions;

2. “thermal treatment” includes the incineration of the waste by oxidation as well as the other thermal processes as pyrolyzation, gasification or plasma processes as far as the resulting substances are incinerated right after them;

3. “installation for co-incineration” means any stationary or mobile plant whose main purpose is the generation of energy or production of material products, in which are incinerated wastes with a view of their recovery as a regular or additional fuel or with a view to their disposal. If the main purpose of the co-incineration in relevant installation is the disposal of the waste and not the generation of energy or production of material products, the installation shall be regarded as an “installation for incineration” within the meaning of point 1. The installation for co-incineration includes the site and the entire plant including all co-incineration lines, waste reception, storage, on site pretreatment facilities, waste-, fuel- and air-supply systems, boiler, facilities for the treatment of exhaust gases, on-site facilities for treatment or storage of residues and waste water, stack devices and systems for controlling incineration operations, recording and monitoring incineration conditions;

4. “Existing installation for incineration” is each installation for incineration of waste, which start-up is before the date of the enforcement of this Regulation.

5. "Existing installation for co-incineration" is each installation for co-incineration of waste, for which a permit or an IPPC permit according to Article 3, paragraph 1 is granted and which start-up is made not later than 28.12.2004.

6. "Competent authorities" for implementation of the requirements of the Regulation, including also the duly undertaking of the necessary and appropriate measures and actions for their enforcement, are:

a) The minister of environment and водите - for the installations regarded to in Annex № 4 of LPE, as well as for the cases according to Article 37, point 2 of WMA.

b) The Director of the Regional Inspectorate for environment and water – in the cases according to Article 37, point 1 of WMA or according to Article 117, paragraph 3 of LPE.

7. "Nominal capacity" means the sum of the incineration capacities of the furnaces of which an incineration plant is composed, as specified by the constructor and confirmed by the operator, with due account being taken, in particular, of the calorific value of the waste, expressed as the quantity of waste incinerated per hour;

8. "Dioxins and furans" means all polychlorinated dibenzodioxins and dibenzofurans listed in Annex № 6;

9. "Residues" means any liquid or solid material, including bottom ash and slag, fly ash and boiler dust, solid reaction products from gas treatment, sewage sludge from the treatment products from gas treatment, sewage sludge from the treatment carbon that are waste within the meaning of § 1, point 1 from the Additional Provisions of WMA and are generated by the incineration or co-incineration process, the exhaust gas or waste water treatment or other processes within the installation for incineration or co-incineration;

10. "Biomass" are products resulting from the agriculture or the forestry, consisting wholly or particularly of vegetable materials, which calorific value can be recovered as well as the wastes, listed in Article 2, paragraph 2, point 1, items from "a" to "f";

11. "Mixed municipal waste" means municipal waste within the meaning of § 1, point 2 of the Additional provisions of WMA excepting the separately collected waste at its source and is classified in sub-chapter with code 20.01 and excepting the waste classified in sub-chapter with code 20.02 in accordance with the list of Annex № 1 of Regulation № 3 from 2004 for classification of waste.

12. "Daily average value for emissions (limit values)" are the emission limit values averaged for period of 24 hours;

13. "Half-hourly average values for emissions (limit values)" are the emission limit values averaged for period of 30 minutes.

§ 2. When for the construction and the operation of installations for co-incineration of waste a granting of an IPPC permit is required, then the leading category for determination of the production activity is the category of the main production activity, defined according to Annex № 4 of LPE.

## **TRANSITIONAL AND CONCLUSIVE PROVISIONS**

§ 3. The Regulation is issued on grounds of Article 15, paragraph 2 of Waste Management Act (published in State Gazette, №86/2003).



§ 4. The existing installations for incineration or co-incineration of waste shall be in compliance in conformity with the requirements of this Regulation not later than 31.12.2006.

§ 5. The minister of environment and water gives the instructions for the implementation of the Regulation.

§ 6. The periodic measurements of the emissions of heavy metals and dioxins and furans in the air according to Article 40, point 2 are substituted with continuous ones after the establishment of methods for its measuring with relevant BDS, in terms, defined for the purpose by the minister of environment and water.

§ 7. The emission limit values for NO<sub>x</sub> according to point 1 and 2 of Annex № 1 shall be applied for the installations that incinerate only hazardous waste from 1.01.2007.

§ 8. The competent authorities may authorize the following exceptions from the prescribed ELV of NO<sub>x</sub> according to point 1 of Annex № 1 to the existing installations for incineration:

1. until 1 January 2008 – if the nominal capacity is less or of 6 tonnes per hour, provided that the permit or the IPPC permit according to Article 3, paragraph 1 foresees the daily average values do not exceed 500 mg/m<sup>3</sup>;

2. until 1 January 2010 – if the nominal capacity is of >6 tonnes per hour but equal or less than 16 tonnes per hour, provided the permit or the IPPC permit according to Article 3, paragraph 1 foresees the daily average values do not exceed 400 mg/m<sup>3</sup>;

3. until 1 January 2008 - if the nominal capacity is of >16 tonnes per hour but <25 tonnes per hour and which do not produce water discharges, provided that the permit or the IPPC permit according to Article 3, paragraph 1 foresees the daily average values do not exceed 400 mg/m<sup>3</sup>.

§ 9. Until 1 January 2008, the competent authorities may authorise exemptions for dust according to point 1 of Annex № 1 for existing incinerating plants, provided that the permit or the IPPC permit according to Article 3, paragraph 1 foresees the daily average values do not exceed 20 mg /m<sup>3</sup>.

§ 10. Until 1 January 2010, the competent authorities may authorise exemptions for NO<sub>x</sub> according to point 2 of Annex № 1 for existing incineration plants with a nominal capacity between 6 and 18 tonnes per hour, provided that with a permit or an IPPC permit according to Article 3, paragraph 1 is determined a half-hourly average value that does not exceed 600 mg/m<sup>3</sup> for column A or 400 mg/m<sup>3</sup> for column B of Annex № 1.

§ 11. Until 1 January 2007 the competent authorities may authorise exemptions for heavy metals according to point 3, column A, Annex № 1 for the existing incineration plants, which incinerate hazardous waste only, under the condition that with the permit according to Article 3, paragraph 1 are determined ELV not higher than these in column B of point 3 of the same Annex.

§ 12. Until 1 January 2008, the competent authorities may authorise exemptions for NO<sub>x</sub> according to point 3.2 of Annex № 2 for existing wet process cement kilns or cement kilns which burn less than three tonnes of waste per hour,

provided that the the permit or the IPPC permit according to Article 3, paragraph 1 foresees a total emission limit value for NO<sub>x</sub> of not more than 1200 mg/m<sup>3</sup>.

§ 13. Until 1 January 2008, the competent authorities may authorise exemptions for dust according to point 3.2 of Annex № 2 or cement kilns which burn less than three tonnes of waste per hour, provided that the permit or the IPPC permit according to Article 3, paragraph 1 foresees a total emission limit value of not more than 50 mg/m<sup>3</sup>.

§ 14. The ELV for NO<sub>x</sub> according to point 4.1.1.1 of Annex № 2 shall be applied for the installations for co-incineration, that incinerate only hazardous waste from 1 January 2007.

§ 15. Until 1 January 2008, the competent authorities may authorise exemptions for NO<sub>x</sub> and SO<sub>2</sub> for existing co-incineration plants between 100 and 300 MWth using fluidised bed technology and burning solid fuels provided that the permit or the IPPC permit according to Article 3, paragraph 1 foresees a C<sub>roc</sub> value of not more than 350 mg/Nm<sup>3</sup> for NO<sub>x</sub> and not more than 850 to 400 mg/Nm<sup>3</sup> (linear decrease from 100 to 300 MWth) for SO<sub>2</sub> according to point 4.1.1.1 of Annex № 2.

§ 16. Until 1 January 2008, the competent authorities may authorise exemptions for NO<sub>x</sub> according to point 4.1.1.1 of Annex № 2 for existing co-incineration plants between 100 and 300 MWth using fluidised bed technology and burning biomass provided that the permit or the IPPC permit according to Article 3, paragraph 1 foresees a C<sub>roc</sub> value of not more than 350 mg/Nm<sup>3</sup>

§ 17. Until 1 January 2008, the competent authorities may authorise exemptions for total suspended solids for existing incineration plants provided the permit according to Article 26, point 1 foresees that 80 % of the measured values do not exceed 30 mg/l and none of them exceed 45 mg/l.

§ 18. The exemptions for ELV according to § 8, 9, 10, 12, 13, 16 and § 17 shall not be applied after 31 December 2006 for the existing installations for incineration, for which a permit or a IPPC permit according to Article 3, paragraph 1 is granted and their start-up is after 28 December 2002.

**MINISTER OF ENVIRONMENT AND WATER:**

**DOLORES ARSENOVA**

CONFIRMED BY:

**MINISTER OF REGIONAL DEVELOPMENT AND PUBLIC WORKS:**

**VALENTIN TSEROVSKI**

**MINISTER OF AGRICULTURE AND FORESTRY:**

**MEHMED DIKME**

**MINISTER OF HEALTH CARE:**

**SLAVCHO BOGOEV**

**AIR EMISSION LIMIT VALUES FOR THE INSTALLATIONS FOR  
INCINERATION OF WASTE**

**1. Daily average values:**

Table 1

№	Pollutants	ELV, mg/m <sup>3</sup>	
		A (100%)	B (97%)
1.	Total dust	10	
2.	Gaseous and vaporous organic substances, expressed as total organic carbon	10	
3.	Hydrogen chloride (HCl)	10	
4.	Hydrogen fluoride (HF)	1	
5.	Sulphur dioxide (SO <sub>2</sub> )	50	
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 or new incineration plants	200	
7.	Nitrogen monoxide (NO) and nitrogen dioxide (NO <sub>2</sub> ), expressed as nitrogen dioxide for existing incineration plants with a nominal capacity of 6 tonnes per hour or less	400	

**2. Half-hourly average values**

Table 2

№	Pollutants	ELV, mg/m <sup>3</sup>	
		A (100%)	B (97%)
1.	Total dust	30	10
2.	Gaseous and vaporous organic substances, expressed as total organic carbon	20	10
3.	Hydrogen chloride (HCl)	60	10
4.	Hydrogen fluoride (HF)	4	2
5.	Sulphur dioxide (SO <sub>2</sub> )	200	50
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 or new incineration plants	400	200

**3. All average values over the sample period of a minimum of 30 minutes and a maximum of 8 hours:**

Table 3

№	Pollutants	Column A	Column Б
		ELV, mg/m <sup>3</sup>	ELV,* mg/m <sup>3</sup>
1.	Cadmium and its compounds, expressed as cadmium (Cd)	общо 0,05	общо 0.1
2.	Thallium and its compounds, expressed as thallium (Tl)		
3.	Mercury and its compounds, expressed as mercury (Hg)	0,05	0.1
4.	Antimony and its compounds, expressed as antimony (Sb)		
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)	общо 0,5	общо 1
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)		

\* ELV from Column B refers to the exemptions in § 11.

3.1 ELV from Table 3 covers also gaseous and the vapour forms of the relevant heavy metal emissions as well as their compounds..

**4. Average values shall be measured over a sample period of a minimum of 6 hours and a maximum of 8 hours:**

Table 4

Pollutants	ELV, ng/m <sup>3</sup>
Dioxins and furans	0.1

4.1 The emission limit value refers to the total concentration of dioxins and furans calculated using the concept of toxic equivalence in accordance with Annex №6.

**5. The following emission limit values of carbon monoxide (CO) concentrations shall not be exceeded in the combustion gases (excluding the start-up and shut-down phase):**

5.1 50 milligrams/m<sup>3</sup> of combustion gas determined as daily average value;

5.2 150 milligrams/m<sup>3</sup> of combustion gas of at least 95 % of all measurements determined as 10-minute average values or 100 mg/m<sup>3</sup> of combustion gas of all measurements determined as half-hourly average values taken in any 24-hour period;

**DETERMINATION OF AIR EMISSION LIMIT VALUES FOR THE CO-  
INCINERATION OF WASTE**

1. The following formula (mixing rule) is to be applied whenever a specific total emission limit value (C) has not been set out in a table in this Annex.
2. The limit value for each relevant pollutant and carbon monoxide in the exhaust gas resulting from the co-incineration of waste shall be calculated as follows:

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

- $V_{waste}$  exhaust gas volume resulting from the incineration of waste only determined from the waste with the lowest calorific value specified in the permit or the IPPC permit according to Article 3, paragraph 1 and standardised at the conditions laid down in Article 45, paragraph 1 and 2; if the resulting heat release from the incineration of hazardous waste amounts to less than 10 % of the total heat released in the plant,  $V_{waste}$  must be calculated from a (notional) quantity of waste that, being incinerated, would equal 10 % heat release, the total heat release being fixed.
- $C_{waste}$  emission limit values set for incineration plants in Annex № 1 for the relevant pollutants and carbon monoxide.
- $V_{proc}$  exhaust gas volume resulting from the plant process including the combustion of the authorised fuels normally used in the plant (wastes excluded) determined on the basis of oxygen contents at which the emissions must be standardised as laid down in Regulation № 2 from 1998 of the Minister of environment and water on the emission limit values of pollutants (concentrations in exhaust gases) released into the air from stationary sources (published in State Gazette, №51/1998);. In the absence of regulations for this kind of plant, the real oxygen content in the exhaust gas without being thinned by addition of air unnecessary for the process must be used. The standardisation at the other conditions is given in Article 45, paragraph 1.
- $C_{proc}$  emission limit values as laid down in the tables of this annex for certain industrial sectors or in case of the absence of such a table or such values, emission limit values of the relevant pollutants and carbon monoxide in the flue gas of plants which comply with Regulation № 2 from 1998 of the Minister of environment and water on the emission limit values of pollutants (concentrations in exhaust gases) released into the air from stationary sources (published in State Gazette, №51/1998) while burning the normally authorised fuels (wastes excluded). In the absence of these measures the emission limit values laid down in the permit are used. In the absence of such permit values the real mass concentrations are used.
- $C$  total emission limit values and oxygen content as laid down in the tables of this annex for certain industrial sectors and certain pollutants or in case of the absence of such a table or such values total emission limit values for CO and the relevant pollutants replacing the emission limit values as laid down in

specific Annexes of this Regulation. The total oxygen content according to Article 45, paragraph 3 to replace the oxygen content for the standardisation according to Article 45, paragraph 1 is calculated on the basis of the content above respecting the partial volumes.

### 3. Special provisions for cement kilns co-incinerating waste

3.1. Daily average values (for continuous measurements) Sample periods and other measurement requirements as in Chapter five. All values in mg/m<sup>3</sup> (Dioxins and furans ng/m<sup>3</sup>). Half-hourly average values shall only be needed in view of calculating the daily average values.

The results of the measurements made to verify compliance with the emission limit values shall be standardised at the following conditions: Temperature 273 K, pressure 101.3 kPa, 10% oxygen, dry gas.

#### 3.2. Total emission limit values (C)

<b>Pollutants</b>	<b>C</b>
Total dust	30
HCl	10
HF	1
NO <sub>x</sub> f for existing/new plants	800 / 500
Cd + Tl	0.05
Hg	0.05
Sb + As + Pb + Cr +Co + Cu + Mn + Ni + V	0.5
Dioxins and furans	0.1

### 3.3. Total emission limit values for SO<sub>2</sub> and TOC ( C ).

Pollutants	C
SO <sub>2</sub>	50
TOC	10

### 3.4. Emission limit value for CO.

Emission limit values for CO can be set by the competent authority.

## 4. Special provisions for combustion plants co-incinerating waste

### 4.1. Daily average values

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

#### 4.1.1. ELV (C<sub>roc</sub> ).

##### 4.1.1.1. ELV (C<sub>roc</sub> ) for solid fuels expressed in mg/Nm<sup>3</sup> (O<sub>2</sub> content 6):

Pollutants	< 50 MWth	50 – 100 MWth	100 – 300 MWth	> 300 MWth
SO <sub>2</sub>				
1. general case		850	850 to 200*	200
2. indigenous fuels		or rate of desulphurisation ≥90 %	or rate of desulphurisation ≥92%	rate of desulphurisation ≥95%
NO <sub>x</sub>		400	300	200
Dust	50	50	30	30

\* C<sub>proc</sub> is calculated regarding the total capacity with the following formula:

$$C_{proc} [\text{mg}/\text{Nm}^3] = 1175 - 3,25.M,$$

and M is the total capacity expressed in MWth

4.1.1.1.1. The formula for calculating of C<sub>proc</sub> for SO<sub>2</sub> (general case) for installations between 100 and 300 MWth regarding the exemptions of § 15 is:

$$C_{proc} [\text{mg}/\text{Nm}^3] = 1075 - 2,25.M,$$

and M is the total capacity expressed in MWth

##### 4.1.1.2.ELV (C<sub>proc</sub>) for biomass expressed in mg/Nm<sup>3</sup> (O<sub>2</sub> content 6 %):



<b>Pollutants</b>	<b>&lt; 50 MWth</b>	<b>50 – 100 MWth</b>	<b>100 – 300 MWth</b>	<b>&gt; 300 MWth</b>
SO <sub>2</sub>		200	200	200
NO <sub>x</sub>		350	300	300
Dust	50	50	30	30

4.1.1.3. ELV ( $C_{proc}$ ) for liquid fuels expressed in mg/Nm<sup>3</sup> (O<sub>2</sub> content 3 %):

<b>Pollutants</b>	<b>&lt; 50 MWth</b>	<b>50 – 100 MWth</b>	<b>100 – 300 MWth</b>	<b>&gt; 300 MWth</b>
SO <sub>2</sub>		850	850 до 200*	200
NO <sub>x</sub>		400	300	200
Dust	50	50	30	30

\*  $C_{proc}$  is calculated regarding the total capacity with the following formula:

$$C_{proc} [mg/Nm^3] = 1175 - 3,25.M,$$

and M is the total capacity expressed in MWth

4.2. Total emission limit values (C)

C expressed in mg/Nm<sup>3</sup> (O<sub>2</sub> content 6 %). All average values over the sample period of a minimum of 30 minutes and a maximum of 8 hours:

<b>Pollutants</b>	<b>C</b>
Cd + Tl	0.05
Hg	0.05
Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V	0.5

C expressed in ng/Nm<sup>3</sup> (O<sub>2</sub> content 6 %). All average values measured over the sample period of a minimum of 6 hours and a maximum of 8 hours:

<b>Pollutants</b>	<b>C</b>
Dioxins and furans	0.1

**4.3. Special provisions for industrial sectors not covered under point 3 or point 4 co-incinerating waste.**

4.3.1. Total emission limit values (C)

C expressed in ng/Nm<sup>3</sup>. All average values measured over the sample period of a minimum of 6 hours and a maximum of 8 hours:

<b>Pollutants</b>	<b>C</b>
Dioxins and furans	0.1

C expressed in mg/Nm<sup>3</sup>. All average values over the sample period of a minimum of 30 minutes and a maximum of 8 hours:

<b>Pollutants</b>	<b>C</b>
Cd + Tl	0.05
Hg	0.05

**REQUIREMENTS TO THE MEASUREMENT TECHNIQUES AND MEANS**

1. Measurements for the determination of concentrations of air and water polluting substances have to be carried out representatively.
2. Sampling and analysis of all pollutants including dioxins and furans as well as reference measurement methods to calibrate automated measurement systems shall be carried out as given by Bulgarian (BDS) standards introducing the CEN standards. If CEN standards are not available, the Bulgarian (BDS) standards introducing the ISO standards shall apply
3. 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:

Carbon monoxide:	10 %
Sulphur dioxide:	20 %
Nitrogen dioxide:	20 %
Total dust:	30 %
Total organic carbon:	30 %
Hydrogen chloride:	40 %
Hydrogen fluoride	40 %

**Example to point 3:** At the measuring of the Carbon monoxide according to Annex № 1, point 5.1 the daily average value of ELV in the exhaust gas is 50 mg/m<sup>3</sup>. The 10% part of this value is 5 mg/m<sup>3</sup>. So the 95 % confidence intervals of a single measured result for the daily average value at the measuring of the Carbon monoxide shall not exceed 5 mg/m<sup>3</sup>.

**EMISSION LIMIT VALUES FOR DISCHARGES OF WASTE WATER  
FROM THE CLEANING OF EXHAUST GASES**

Table 1

№	Pollutants	Emission limit values *	
		95%	100%
1	Total suspended solids	30	45
2	Mercury and its compounds, expressed as mercury (Hg)	0.03	
3	Cadmium and its compounds, expressed as cadmium (Cd)	0.03	
4	Thallium and its compounds, expressed as thallium (Tl)	0.05	
5	Arsenic and its compounds, expressed as arsenic (As)	0.15	
6	Lead and its compounds, expressed as lead (Pb)	0.2	
7	Chromium and its compounds, expressed as chromium (Cr)	0.5	
8	Copper and its compounds, expressed as copper (Cu)	0.5	
9	Nickel and its compounds, expressed as nickel (Ni)	0.5	
10	Zinc and its compounds, expressed as zinc (Zn)	1.5	
11	Dioxins and furans, defined as the sum of the individual dioxins and furans **	0.3	

\* The ELV are expressed in mass concentrations for unfiltered samples:

- in mg/l for the pollutants in rows 1-10;
- in ng/l for dioxins and furans in row 11.

\*\* Calculated according to Annex № 6.

**FORMULA TO CALCULATE THE EMISSION CONCENTRATION AT  
THE STANDARD PERCENTAGE OXYGEN CONCENTRATION**

The measured emission value shall be reduced to the standard percentage oxygen concentration in the exhaust gas according the following formula:

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

- $E_s$       calculated emission concentration at the standard percentage oxygen concentration;
- $E_m$       measured emission concentration;
- $O_s$       standard oxygen concentration according to Article 45;
- $O_m$       measured oxygen concentration.

**EQUIVALENCE FACTORS FOR DIBENZO-P-DIOXINS AND  
DIBENZOFURANS**

For the determination of the total concentration (TE) of dioxins and furans, the mass concentrations of the following dibenzo-p-dioxins and dibenzofurans shall be multiplied by the following equivalence factors before summing:

Table 1

№	Chemical compound	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