

**THE MINISTRY OF ENVIRONMENT AND WATER; THE MINISTRY OF ECONOMICS,  
THE MINISTRY OF POWER AND POWER SOURCES, THE MINISTRY OF REGIONAL  
DEVELOPMENT AND PUBLIC WORKS, THE MINISTRY OF HEALTH**

**Regulation No. 10 of 6 October 2003 on the Emission Limit Values (Concentrations in Waste  
gasses) of sulphur dioxide, nitrogen oxides and total dust, discharged to the atmosphere from  
large combustion plants**

State Gazette No. 93 of 21 October 2003

**Chapter 1**

**GENERAL PROVISIONS**

**Article 1**

(1) This Regulation shall set forth the emission limit values (concentrations in waste gasses) for sulphur dioxide, nitrogen oxides and total dust, discharged to the atmosphere from large combustion plants (LCP), intended for power generation.

The emission limit values (ELV) under paragraph 1 above shall be specified for the purposes of preventing, or in cases when impracticable, for restricting the potential harmful impacts on human health and on the environment, and in particular, the impact of atmospheric air contamination by certain pollutants, formed during the incineration of fuels in LCP.

**Article 2**

The provisions under this Regulation shall apply to all LCP of nominal heat generating capacity greater or equal to 50 MWth, irrespective of fuel types used thereby - solid, liquid or gaseous fuel types.

**Article 3**

This Regulation shall not apply to the below listed LCP:

1. Combustion plants where the products afforded by the combustion process are directly utilized for heating, drying or for other types of heat-treatment of articles or materials, such as heat-treating furnaces and heating annealing furnace;
2. Post-combustion facilities, intended for waste gas purification through incineration, which do not operate as self-contained combustion plants;
3. Plants for catalytic cracking catalyst recovery;
4. Plants for transforming hydrogen sulphide into elemental sulphur (the Clauss process);
5. Reactors in chemical industry;
6. Coke firing furnaces;
7. Regenerative air heaters of internal or external (remote) combustion chamber (Kaupers);
8. Installations for power generation from Diesel, gasoline or gaseous fuel firing motors;
9. Technological devices used for powering motor vehicles intended for road, water and air transports;
10. gas turbines used in offshore platforms;
11. gas turbines, started in operation before the 27 of November 2002, or such that have permits (licenses) for starting in operation issued earlier than 27 November 2002, provided that the turbine shall be started in operation not later than 27 November 2003; for the above said turbines the provisions under Articles 17, 18 and 19 of this Regulation shall apply as well as the procedures for LCP emission control and evaluation.

#### **Article 4**

In the event that two or more autonomous combustion plants shall be installed in such a way as to allow discharge of their waste gasses via a shared pipe, and pending on the assessment of technological and economic factors by the competent authorities, the combination formed by those plants shall be regarded as a single autonomous block (one plant).

#### **Article 5**

(1) For the purposes of designing and constructing new LCP, regardless of the obligation for complying with the ELV, the contractor and the construction designer shall make estimates for the atmospheric pollution in the region resulting from each individual plant, using a method approved pursuant to the provisions under paragraph 3 of Article 11 of the Atmospheric Air Purity Act.

(2) Compliance with the required level of purification, pipe height, etc. shall be obligatory, in order that during the operation of the LCP the content of hazardous substances in ground level air shall not exceed the limit values specified under Regulation No. 9 of 1999 on the Atmospheric Air Limit Values for Sulphur Dioxide, Nitrogen Oxides, Fine Dust Particles and Lead (SG No. 46 of 1999)

#### **Article 6**

(1) In the event that a combustion plant shall be expanded by at least 50 MWt, the emission limit values, specified under Part B of Annexes No. 1-5 shall be applied to the newly constructed unit of the said plant and shall be determined based on the power capacity of the whole plant.

(2) The provision under paragraph 1 above shall not apply to the cases listed under Article 23 of this Regulation.

### **Chapter Two**

#### **Emission Limit Values for Sulphur Dioxide, Nitrogen Oxides and Dust**

#### **Article 7**

(1) In cases of designing, constructing and operating new LCP, where the necessary documentation for the issuance of construction permit and of operation permit, respectively, required under the Regional Development Act, or other documents required by applicable law, have been submitted to the competent authorities by the site contractor before 27 November 2002, and where the site shall have been started in operation no later than 27 November 2003, the implementation of all necessary measures shall be ensured, based on the best available technologies, in order that the emission levels of sulphur dioxide, nitrogen oxides and dust shall not exceed the respective ELVs, specified under Part A of Annexes 1-5.

(2) In cases of designing, constructing and operating new LCP, exclusive of those under paragraph 1 above, all necessary measures shall be taken, based on the best available technologies, to ensure that emissions of sulphur dioxide, nitrogen oxides and dust shall not exceed the respective ELV, specified under Part B of Annexes 1-5.

#### **Article 8**

(1) Operators of existing plants, specified under Annex 6 shall be responsible to take all possible measures, based on the best available technologies, in order to achieve compliance of the emissions of sulphur dioxide, nitrogen oxides and dust discharged by the said plants with the relevant ELV specified for new plants under paragraph 1 of Article 7 above.

(2) Based on an application by an operator of existing plant and subject to the prerequisites under paragraph 1 of § 8, the competent authorities may grant an exemption of the said operator from the obligations under paragraph 1 above.

(3) The obligations under paragraph 1 above shall not apply to existing plants, for which the operator no later than the 30 June 2004 shall file with the competent authorities a written statement for taking on himself/herself the responsibility to limit the heat generating capacity of the respective LCP below 50 MWth following the 1 January 2008.

#### **Article 9**

(1) Existing plants may be granted an exemption from compliance to the ELV according to Article 8 above, under the below listed conditions:

1. The operators of an existing plant have taken the responsibility in a written statement, filed with the competent authorities by 30 June 2004, to operate the plant for a total of less than 20,000 hours over the period from 1 January 2008 till 31 December 2015.

2. In the cases under subparagraph 1 above, starting from 1 January 2008, in the Report under s. 5 of Article 125 of the Environmental Protection Act, the operator shall include an account of the used and unused time within the time limit allowed for the remaining life-span of operation of the plant concerned.

(2) The operators of existing plants, to whom exemption from the ELV have been granted under paragraph 1 above, shall have the obligation to:

1. Comply with the requirements, provided for those plants in the integrated license, issued in accordance with Section 2 of Chapter Seven under the Environmental Protection Act;

2. Carry out the measures, prescribed for the relevant installation within the Programmes under paragraph 1, Article 31 of the Regulation No. 7 of 1999 on the Atmospheric Air Quality Assessment and Management (SG. No. 45 of 1999) and/or in the action plans under paragraph 5 of Article 31 of the said Regulation.

### **Chapter Three**

#### **Programme for fulfilling the ELV by existing LCP**

#### **Article 10**

(1) For the purposes of bringing existing plants listed under Annex 6 in conformity with the ELV within the time limit under Article 8 above, competent authorities shall elaborate a Programme for fulfilment of ELVs.

(2) The Programme under paragraph 1 above shall cover all existing LCP with the exemption of plants under paragraph 3 of Article 8 of this Regulation, it shall be developed on the basis of technical, technological and economical studies and estimates, as well as negotiations among the parties concerned, and it shall be approved by the Council of Ministers.

(3) The implementation of the Programme under paragraph 1 above for fulfilling the ELV by existing LCP shall be compulsory.

#### **Article 11**

The Programme shall cover:

1. the tasks set forth towards fulfilling the ELV per each existing LCP, the necessary technical and technological measures and actions for the implementation of the tasks, based on the best available practices, a time-schedule for the implementation and the time limits per individual measures and actions;

2. technical and economical rationale for the measures and actions, and evaluation of investment, operational and other implementation costs, based on studies, estimates, offers and expert opinions;

3. sources of funding, including own resources, bank credits, funding by European and/or international investment funds and programmes.

4. Individual investment stages towards the implementation of the technical and technological measures and actions planned;

5. The institutions and persons responsible for the implementation of the technical and technological measures and actions planned;

6. reasons, evidences and time limits for achieving compliance for cases where a given LCP, under the obligations set forth in s. 1 or s. 2 of Article 13 above, has been granted a time-limit to fulfil the ELV, longer than the time-limit specified under Article 8 above;

7. the prerequisite technical measures and actions and the time-limits for the implementation thereof, as well as investment, operational and other costs of the implementation of the provisions under Article 24 below;

8. Measures for increasing the administrative resources of the respective LCP - changes affecting the structure and the number of staff, training, logistic facilities and software, improving communication facilities, etc.;

9. Measures for the neutralising the negative effects of the implementation of the measures and actions planned, and of the transition period, including those related with power market competition, the social sphere, the transboundary effects, etc.

#### **Article 12**

The implementation of measures within the Programme under Article 10 shall ensure the progressive limiting of total annual emissions discharged from existing LCP, in a such a manner that they shall not exceed the threshold emissions specified under Annex 7 for sulphur dioxide, and under Annex 8 for nitrogen oxides, by the day the ELV for existing LCP under Article 8 above comes into effect.

#### **Article 13**

Based on an application from a person concerned, the competent authorities may permit a time-limit for bringing an existing LCP in conformity with the ELV, longer than the time-limit under Article 8 of this Regulation in the below listed cases:

1. When a certain LCP is not fired with local lignite coal, and the said LCP has been placed under the obligation to compensate in part or in total for the power production of shut down nuclear power plants by a decision of the Minister of Power and Power Sources or a person, duly authorised thereby, and if the time-limit for bringing that LCP in conformity with the ELV shall lead to obstructive difficulties in performing its production obligations.

2. When the LCP concerned provides the heat and electrical power supply for technological needs of an oil processing facility, contributing by more than a 50% share to the national production of boiler fuels, with the said oil processing facility being under obligations to concomitantly fulfil the ELV and reduce to 1% the sulphur content in the boiler fuels produced thereby within the time limit approved.

#### **Article 14**

(1) Operators of existing LCP under Annex 6, covered by the Programme under Article 10 of this Regulation, shall submit to the competent authorities in writing obligatory information on the progress of the implementation of each individual measure and/or action, planned for the respective LCP within a month after completion of each half-year period.

(2) Obligatory information under paragraph 1 above shall include:

1. identification of the plant, and in particular, of the steam-generator/s the information refers to the type of measures and/or actions under the Programme;

2. the progress in the implementation per individual measures and/or actions - initiation date, implementation phase, or for already completed measure and/or actions - date of completion.

3. Changes in the types of measures and/or actions planned for the respective plant or affecting the time-limits for the implementation thereof, and the reasons for introducing the changes where appropriate;

4. Results from already implemented measures and actions taken;

5. Additional measures or actions taken, other than those planned within the Programme under Article 10 above, in the event that such have been carried out or have been scheduled to be implemented, as well as the expected results and the time limits relevant to the fulfilment of the ELV.

#### **Article 15**

The Directors of Regional Inspectorates of Environment and Water, which accommodate LCP sites covered by the Programme under Article 10 above, shall exercise continuous control on the implementation of the measures and actions, planned for those LCP, and shall immediately inform the Minister of Environment and Water whenever failure of implementation, violation of the approved time limits, or any other event that may place at risk the implementation of the programme, has occurred.

### **Chapter Four**

#### **OPERATING PURIFICATION FACILITIES**

#### **Article 16**

In the event of technical equipment failure or stoppage of purification facilities within a certain LCP, which have resulted in exceeded ELVs, the operator shall be responsible for immediately taking the necessary measures to restore the normal functioning of purification facilities, and shall notify the competent authorities thereof within maximum 48 hours.

#### **Article 17**

(1) In the event of failure to restore the normal functioning of purification facilities within 24 hours, the competent authorities shall request the operator to stop the plant from operation, or to operate the plant with less contaminating fuels.

(2) The total length of operation with non-functional purification facilities for any combustion plant shall not be allowed to exceed 120 hour per a calendar year.

#### **Article 18**

(1) Upon request by a person concerned, the competent authorities may allow exemptions from the restrictions under Article 17 above, in cases where:

1. Based on the opinion of the Minister of Power and Power Sources or a person duly authorised thereby, an unavoidable necessity of maintaining the electric power supply exists;

2. A plant with damaged or non-functioning purification facilities may be replaced by another plant, likely to cause total increase in emissions only for a limited period of time.

(2) Exemptions under paragraph 1 above shall not exceed 72 hours for cases under paragraph 1, or 240 hours for cases under paragraph 2 of Article 17 of this Regulation, respectively and shall be

allowed only if throughout the duration of the exemption permitted, the daily average rates of emission limit values for sulphur dioxide, for nitrogen oxides and dust, measured in accordance with Regulation No. 9 of 1999 on the Limit Values for Sulphur Dioxide, Nitrogen Dioxide, Fine Particulate Matter and Lead in Atmospheric Air, are complied with at the region of the plant site having the damaged or non-functioning purification facilities.

#### **Article 19**

Following a request by a concerned person, in the event that the operator is unable to ensure the supply with low sulphur fuels due to market shortages, the competent authorities may give a permission for exemption from the requirements for fulfilling the ELV for sulphur dioxide under Chapter Two of this Regulation, to plants, which normally fire only low sulphur fuels, but for a period of maximum of up to 3 months per any 12 month period.

#### **Article 20**

In cases of certain combustion plants, which are normally fired by gaseous fuels only, or should have been otherwise equipped with facilities for the purification of waste gases, and following a request by a person concerned, the competent authorities may allow exemptions from compliance with the ELV under Chapter Two of this Regulation, when the said plants, due to an abrupt cut in natural gas supply, may need to switch to firing other fuels, but only as an exception and for a period not longer than 10 days per any 12 months, **unless** the pressing demand for sustaining the power supply persists;

### **Chapter Five**

#### **ELV for Plants Having Multiple Fuel Firing Installations**

#### **Article 21**

In cases of new and existing LCP with multiple fuel firing installations, which can be concomitantly fired with two or more different types of fuel, the ELV for sulphur dioxide, nitrogen oxides and dust shall be determined in the following consecutive order:

1. the individual pollutant ELVs shall be determined per each specified fuel type used at the combustion plant and for the respective nominal heat generating capacity thereof in accordance with Annexes 1-5 to this Regulation;
2. the fuel weight rates of ELV shall be calculated by dividing the result of multiplication of the individual ELVs for the nominal heat generating capacity of the specified fuel type in accordance with subparagraph 1 above, into the sum total of the nominal heat generating capacities of the individual fuel types used.
3. the sum total of the individual fuel weight rates of ELV determined in accordance with subparagraph 2 above, shall be calculated.

#### **Article 22**

(1) In cases of multiple fuel firing installations, which for their own needs utilise residual products from distillation and transformation of natural oil formed during crude oil processing alone or in combination with other fuel types, irrespective of the provisions under Article 21 above, the legal requirements relevant to the fuel type of the highest ELVs ( the determinant fuel) shall apply, provided that the relative share contributed by the said fuel consists at least 50% of the sum total of consumable heat generating capacity afforded by all fuels used.

(2) When the relative share contributed by the determinant fuel is below 50%, the ELVs shall be determined proportionately based on the heat generating capacities contributed by all the individual fuel types in the following order of consecution:

1. The ELVs for individual pollutants per every specified fuel type for the nominal heat generation capacity of a given combustion plant shall be determined in accordance with Annexes 1-5 of this Regulation;
  2. The ELV values for the determinant fuel (the fuel type of highest ELVs as per Annexes 1-5 of this Regulation, and in the event of two fuel types having equal ELVs - the fuel type of the greatest heat generating capacity); the limit value is obtained by multiplying by a multiplication factor of 2 the ELVs, determined according to Annexes 1-5 for the given fuel type and subsequently subtracting from that result the ELV for the fuel type of the lowest ELV;
  3. the fuel weigh rates of ELVs (per weight amounts of specified fuel type used) shall be determined by multiplying the calculated ELV of the given fuel type by the heat generating capacity of the determinant fuel and by all the remaining individual ELVs per heat generating capacity provided by individual fuel type, and this multiplication result shall be divided by the sum total of the heat generating capacities provided by all the individual fuels used;
  4. The sum total of the individual fuel weight rates of ELVs (per weight amount of specified fuel type used) shall be calculated.
- (3) In alternative to paragraphs 1 and 2 above, the below specified average rates of ELV for sulphur dioxide may be adopted, regardless of the fuel combinations used:
1. For combustion plants under paragraph 1 of Article 7 and under Article 8 of this Regulation - 1000 mg/Nm<sup>3</sup>, as the average rate for all new plants within the given crude oil processing site;
  2. For new plants as specified under paragraph 2 of Article 7 of this Regulation - 600 mg/Nm<sup>3</sup>, as the average rate of ELV for all new plants in the given crude oil processing facility except for gas turbines.
- (4) The implementation of paragraph 3 above shall not result in an increase in emissions discharged from existing plants.

### **Article 23**

For new and existing LCP equipped with multiple fuel firing facilities, which operate with two or more alternating fuel types used in a consecutive manner, the ELVs specified under Annex 1-5 shall apply per each separate fuel type used, respectively.

## **Chapter Six**

### **MEASUREMENT OF EMISSIONS DISCHARGED FROM LCP**

#### **Article 24**

During the designing and construction of new LCP and the operating of existing LCP the contractor, or the operator, respectively of the given plant shall ensure all necessary conditions and equipment for conducting regular periodical or continuous internal measurements of sulphur dioxide, nitrogen oxides and dust emissions pursuant to Chapter Five and to Chapter Six of the Regulation No. 6 of 1999 on the Methods and Procedure for Measurement of Harmful Substance Point-source Emissions Discharged to the Atmosphere (promulgated SG No. 31 of 1999)

#### **Article 25**

(1) Exemption from conducting the continuous internal measurements, required under Chapter Six of the Regulation No. 6 of 1999 on the Methods and Procedure for Measurement of Harmful Substance Point-source Emissions Discharged to the Atmosphere may be granted by the competent authorities to LCPs of heat generating capacities equal to 100 MWth or greater, subject to a request by the persons concerned, in the following cases:

1. cases of existing combustion plants of residual operational resources - 10,000 hours of functioning;

2. regarding sulphur dioxide and dust - in cases of steam generating plants or gas turbines, fired with natural gas;
3. regarding sulphur dioxide - in cases of steam generators or gas turbines, fired with liquid fuel of known sulphur content, when no appropriate facilities for sulphur decontamination are available;
4. regarding sulphur dioxide - in cases of steam generators incinerating bio-mass, when the operator is able to prove that the sulphur dioxide emissions may not, under any circumstances, exceed the approved ELV.

The plants under paragraph 1 above shall not be allowed exemptions from conducting the regular periodical internal measurements pursuant to Chapter Five of the Regulation No. 6 of 1999 on the Methods and Procedure for Measurement of Harmful Substance Point-source Emissions Discharged to the Atmosphere (promulgated SG No. 31 of 1999) performed with a periodicity of less than 6 months.

(3) Whenever an evaluation of the quantity of sulphur dioxide and dust discharged from the combustion plants under paragraph 1 above is considered necessary, the procedures allowed for conducting the determination of the said substances shall be recognised as appropriate, duly checked and approved by the competent authorities

#### **Article 26**

In the cases of continuous internal measurements, the ELV under the respective Parts A of Annexes 1-5 shall be considered fulfilled only if the evaluation of the results shall indicate that throughout the operation time within a calendar year:

1. none of the monthly average rates per calendar month has exceeded the emission limit values;
2. 97 % of all 48 hourly average rates have been within 110% of the sulphur dioxide emission limit value and that 95% of all 48-hourly average rates have been within 110% of the nitrogen oxides emission limit values.

#### **Article 27**

The degree of desulphuration shall be considered complied with if all monthly average rates per calendar months, or all monthly average rates per random one-month periods have met the requirements regarding the degree of desulphuration.

#### **Article 28**

(1) For new plants under paragraph 2 of Article 7 of this Regulation the Emission Limits values shall be considered fulfilled only in cases, where the evaluation of results from the operation time within a calendar year has revealed that:

1. none of the valid daily average rates has exceeded the values, defined under the respective parts B of the Annexes 1 -5 of this Regulation;
2. among all valid hourly average rates, 95 % fall within 200 % of the values, defined under the respective parts B of the Annexes 1-5 of this regulation.

(2) Valid average rates are defined under subparagraph 7 of Part A of Annex 9 to this Regulation.

#### **Article 29**

For the purposes of the analysis of compliance with the ELVs pursuant to Article 26 and Article 28 above, and analysis of fulfilling the degree of desulphuration levels in accordance to Article 27 above, the periods of temporary non-functioning of the purification facilities under Chapter Four of this Regulation, as well as the periods of initial starting into operation and stoppage from work of the plant shall not be taken into consideration.

### **SUPPLEMENTARY PROVISIONS**

§ 1. Applicable to all new plants under paragraph 2 of Article 7 of this Regulation and the plants under Article 6 of this Regulation, the contractor of the respective site, prior to the issuance of the permit in accordance with provisions of Bulgarian law on construction and starting into operation, and in addition to the required documentation under paragraph 2 of Article 122 of the Environmental Protection Act, and well as that, required under paragraph 1 of Article 16 of the Atmospheric Air Purity Act, shall submit the results from the technical and economic investigations of the possibilities of integrated heat- and electric power generation. Whenever such possibilities have been found to exist, and taking into account the marketing and distribution situation, plants with a potential for integrated production shall be built.

§ 2. For the purposes of this Regulation:

1. “emissions” shall mean substances, discharged to the atmospheric air by combustion plants during its operation;

2. “emission threshold” shall be the maximum amount of a specified pollutant, measured in kilotonnes, which may be discharged in the atmospheric air by the total number of functioning sites of the power sources and power generation industry within the territory of the country over a calendar year.

3. “waste gasses” shall be all gaseous state discharges containing solid, liquid or gaseous emissions; the volume flow rate thereof shall be measured in cubic meters per hour at normal conditions: a temperature of 273 °K and a pressure of 101,3 kPa following correction for moisture content, and shall be expressed in Nm<sup>3</sup>/h;

4. “emission limit values” (ELV) shall be the admissible quantity of a substance, contained in waste gasses from combustion plants, which may be discharged in the atmospheric air over a definite period of time; the limit values shall be calculated as mass concentration (concentration by mass units) of the substance present in waste gasses, those shall be expressed in mg/Nm<sup>3</sup> and shall be given at a specified oxygen volume content in waste gasses, as stated below:

3 % - for liquid and gaseous fuels;

6 % - for solid fuels;

15 % - in cases of gas turbines, when the measured oxygen content is different from the value approved for the respective process, or is increased due to gas dilution, the measured emission value shall be corrected for, by multiplying it by a factor of K, determined according to the formula below:

$$K = \frac{21 - O_n}{21 - O_m},$$

where:

O<sub>n</sub> is the oxygen content in volume percent for the given fuel;

O<sub>m</sub> is the measured oxygen content in volume percent at the outlet of the purification facility, or before discharge of the gases in the atmosphere;

5. “degree of desulphuration” in a combustion process shall indicate the ratio of the amount of sulphur captured by the desulphuration facility or captured during the combustion reaction itself over a definite period of time, versus the amount of sulphur contained initially in the fuel charged into the firing unit, which has been used up over the same period of time;

6. “operator” shall be any natural person or legal entity, who operates the combustion plant and exerts control on its activity, or in certain cases specified by law, such person who has been entrusted with the financial authority over the plant.

7. “competent authorities” shall mean the authorities listed under subparagraphs 1 and 3 of paragraph 1, Article 10 of the Environmental Protection Act, who are responsible to carry out specific obligations, pursuant to this Regulation.

8. “fuel” shall be all solid, liquid or gaseous combustible material, used within the combustion process in combustion plants, with the exception of waste materials as defined under subparagraph 1 of § 1 of the Elimination of the Hazardous Environmental Impact of Waste and Domestic Refuse Act, the incineration whereof has been set forth under the Regulation No.11 of 1998 on the Requirements for Construction and Operation of Domestic refuse Elimination Equipment and Installations (SG, No. 152 of 1998) or under the Regulation on the Requirements for Hazardous and Industrial Waste Treatment and Transportation (SG, No. 29 of 1999);

9. “combustion plant” shall be any technical facility, where the oxidation of fuel is carried out for the purpose of making use of the heat generated during the above process;

10. “heat generating capacity” of a combustion plant shall be determined from the heat generating capacity of the fuel amount, fed in at nominal load over an hour, and shall be expressed in heat Megawatts (MWth);

11. “multiple fuel firing installation” shall be any combustion plant, which is capable of firing concomitantly or in consecution two or more different types of fuels;

12. “the weight rates of ELV” shall be a measurement used for defining the ELV of multiple fuel firing installations, and shall be calculated according to the rules specified under subparagraph 2 of Article 21, or according to the method specified in subparagraph 3 under paragraph 2 of Article 22 of this Regulation, depending on the type of the multiple fuel firing installation.

13. “new plant” shall be every combustion plant, having an initial permit (licence, and etc.) for construction and/or for starting in operation issued pursuant to the currently effective legislation, on a date later than the 30 June 1987.

14. “existing plants” shall be every functioning combustion plant having an initial permit (licence and etc.) for construction and/or starting into operation in accordance with the law effective at that time, which has been issued earlier than the 1 of July 1987.

15. “natural gas” shall denote a substance, spontaneously forming in nature and composed of predominantly methane (above 70 % per volume), inert gasses and other ingredients;

16. “biomass” shall denote products, consisting entirely, or partially of vegetable matter of agricultural or forestry origin, which may be employed as fuels for the purpose of utilising their power generating potential, as well as the below listed waste materials, used as fuels:

- a) vegetable waste from farming and forestry;
- b) vegetable refuse from food industry, if the heat generated therefrom is made use of;
- c) waste vegetable fibres from technological manufacturing of cellulose from raw wood and paper production from cellulose, if they are incinerated in combination at their production sites and the heat generated thereby is made use of.
- d) waste cork;
- e) wooden waste material (including wood wastes from the construction industry and demolition sites), but excluding materials which in result of treatment with agents may contain halogenated organic compounds or heavy metals;

17. “gas turbine” shall be any machine functioning on a rotation principle, which transforms heat energy in mechanical work, and consists basically of a compressor, a thermal device where fuel is oxidised for the purpose of heating the functioning fluid, and a turbine;

18. “the best available techniques” shall be defined as under subparagraph 42 of § 1 of the Environmental Protection Act;

19. “compelling need for maintaining power supply” shall be recognised to exist when the interruption thereof may create :

- a threat to the health or the life of humans;
- a risk of serious industrial accidents;
- a threat to the integrity of the power supply system;

- a risk of significant material damage to the power supply system, affecting respectively either the power supply network or consumers.

### **Transitional and Conclusive Provisions**

**§ 3.** This Regulation has been issued pursuant to paragraph 1 of Article 9 of the Purity of Atmospheric Air Act and to § 5 of the same Act.

**§ 4.** This Regulation shall supersede the Regulation No. 15 of 1999 on the Emission Limit Values (Concentration in Waste Gases) of Sulphur Dioxide, Nitrogen Oxides and Total Dust Discharged from New Large Combustion Plants in the Atmospheric Air (SG No. 73 of 1999).

**§ 5.** The Annex 4-2 to paragraph 1, Article 22 under Regulation No. 2 of 1998 on the Point Source Emission Limit Values (concentrations in waste gases) of Harmful Substances Discharged in the Atmosphere (SG, No. 51 of 1998) shall be amended by supplementing the end of the said Annex with the following text:

“Annex No. 4-1 and Annex No. 4-2 under paragraph 1 of Article 22 shall be in force by the 1 January 2008 for existing combustion plants of a heat generating capacity greater than 50 MWth.”

**§ 6.** Under subparagraph 1 of Annex No. 3 to Article 43 under the Regulation No. 6 of 1999 on the Methods and Procedure for Measurement of Harmful Substance Point-source Emissions Discharged to the Atmosphere (SG, No. 31 of 1999); the statement “50 MWth” shall be amended by replacing it with the statement “100 MWth”.

**§ 7.** Article 6 shall apply to all facility extensions within a certain LCP site, carried out before 27 November 2002. The implementation of the ELV under the respective Part A or under Part B of Annexes 1-5 of this Regulation, shall be executed on the discretion of the competent authorities.

### **§ 8.**

(1) Exemptions from the ELV under Annex No. 1 may be allowed for plants of nominal heat generating capacity equal or greater than 400 MWth, provided that their operational time shall not be longer than the approved annual operation time (average length for a random 5 year period) of :

1. by the 31 of December 2015 - 2000 hours;
2. from 1 January 2016 - 1500 hours.

(2) For the cases under paragraph 1 above, the sulphur dioxide ELV shall be 800 mg/Nm<sup>3</sup>

(3) Exemptions under paragraph 1 above shall not apply for the new plants under paragraph 2 of Article 7 of this Regulation.

**§ 9.** The Programme under Article 10 of this Regulation shall be approved by the Council of Ministers by the 31 December 2003 at the latest.

**§ 10.** Instructions and guidelines on the implementation of this Regulation shall be issued by the Minister of Environment and Water in conjunction with the relevant institutions concerned.

Minister of Environment and Water: **D. Arsenova**

Minister of Economics: **L. Shuleva**

Minister of Power and Power Sources: **M. Kovatchev**

Minister of Regional Development and Public Works: **V. Tzerovsky**

Minister of Health: **Sl. Bogoev**

**Annex No. 1 to: paragraph 1 of Article 6; paragraphs 1 and 2 under Article 7; subparagraph 1 under Article 21; subparagraphs 1 and 2 of paragraph 2 under Article 22; Articles 23 and 26; subparagraphs 1 and 2 of paragraph 1 under Article 28 and § 7 and § 8 of this Regulation**

### **Solid Fuels**

A. (1) The Emission Limit values (ELV) for sulphur dioxide, expressed in mg/Nm<sup>3</sup> units (at 6 % oxygen content) for new and existing LCP according to paragraph 1 of Article 7 and under Article 8 of this Regulation:

Heat Generating Capacity	From 50 up to 100 MWth	From 100 up to 500 MWth	Above 500 MWth
ELV mg/Nm <sup>3</sup>	2000	2400 4n	400

n - nominal heat generating capacity in MWth

(2) Whenever the ELVs under paragraph 1 above may not be complied with due to fuel characteristics, the below listed degree of desulphuration shall be applied depending on the heat generating capacity of the given plant:

- for 100 MWth or lower - 60%
- from 100 up to 300 MWth - 75 %;
- from 300 up to 500 MWth - 90 %;
- greater than 500 MWth - 94 % (92 %)<sup>1</sup>

(1) in the event that the contract for constructing the desulphuration facility has been signed up before January 2001.

B. (1) Emission Limit Values (ELV) for sulphur dioxide, expressed in mg/Nm<sup>3</sup> ( at 6 % oxygen content) for new LCP under paragraph 2 of Article 7 of this Regulation, with the exemption of gas turbines:

Fuel type	From 50 up to 100 MWth	From 100 up to 300 MWth	Greater than 300 MWth
Bio-mass	200	200	200
In general cases	850	200	200

(2) Whenever the ELV under paragraph 1 above may not be complied with due to fuel characteristics, the following degrees of desulphuration and/or ELVs may be allowed, depending on the heat generating capacity of the plant, respectively:

- for 300 MWth or lower - minimum 92 % or 300 mg/Nm<sup>3</sup>
- greater than 300 MWth - minimum 95 % and 400 mg/Nm<sup>3</sup>.

**Annex No. 2 to paragraph 1 under Article 6; to paragraphs 1 and 2 under Article 7; subparagraph 1 under Article 21; subparagraphs 1 and 2 of paragraph 2 under Article 22; Articles 23 and 26; subparagraphs 1 and 2 of paragraph 1 under Article 28 and to § 7 of this Regulation.**

#### **Liquid Fuels**

A. Emission Limit Values (ELV) for sulphur dioxide, expressed in mg/Nm<sup>3</sup> (at 3 % oxygen content) for new and existing LCP specified under paragraph 1 of Article 7 and Article 8 of this Regulation:

Heat generating capacity	From 50 up to 300 MWth	From 300 up to 500 MWth	Greater than 500 MWth
E L V mg/Nm <sup>3</sup>	1700	3650 - 6.5n	400

n - the nominal heat generating capacity in MWth.

B. Emission Limit Values (ELV) for sulphur dioxide, expressed in  $\text{mg/Nm}^3$  (at 3 % oxygen content) for new LCP pursuant to paragraph 2 of Article 7 of this Regulation with the exemption of gas turbines:

Heat generating capacity	From 50 up to 100 MWth	From 100 up to 300 MWth	Greater than 300 MWth
ELV $\text{mg/Nm}^3$	850	500 - n	200

n - the nominal heat generating capacity in MWth.

**Annex No. 3 to paragraph 1 under Article 6; to paragraphs 1 and 2 under Article 7; subparagraph 1 under Article 21; subparagraphs 1 and 2 of paragraph 2 under Article 22; Articles 23 and 26; subparagraphs 1 and 2 of paragraph 1 under Article 28 and to § 7 of this Regulation.**

#### **Gaseous Fuels**

A. Emission Limit Values (ELV) for sulphur dioxide, expressed in  $\text{mg/Nm}^3$  (at 3 % oxygen content) for new and existing LCP pursuant to paragraph 1 of Article 7 and article 8 of this Regulation:

Fuel type	ELV $\text{mg/Nm}^3$
Gaseous fuels (general cases)	35
Liquefied crude oil gasses	5
Low calorie worth gasses obtained by gasification of crude oil residues, coke gas, and blast furnace gasses.	800
Low calorie worth gasses from coal	(1)

(1) the limit value shall be determined at a later stage

B. Emission Limit Values (ELV) for sulphur dioxide, expressed in  $\text{mg/Nm}^3$  (at 3 % oxygen content) for new LCP pursuant to paragraph 2 of Article 7 of this Regulation:

Fuel type	ELV $\text{mg/Nm}^3$
Gaseous fuels (general cases)	35
Liquefied crude oil gasses	5
Low calorie worth coke gas	400
Low calorie worth blast furnace gasses	200

**Annex No. 4 to paragraph 1 under Article 6; to paragraphs 1 and 2 under Article 7; subparagraph 1 under Article 21; subparagraphs 1 and 2 of paragraph 2 under Article 22; Articles 23 and 26; subparagraphs 1 and 2 of paragraph 1 under Article 28 and to § 7 of this Regulation.**

**Emission Limit Values (ELV) for nitrogen oxides - NO<sub>x</sub> (expressed as nitrogen dioxide - NO<sub>2</sub>)**

A. Emission Limit Values (ELV) for nitrogen dioxide, expressed in  $\text{mg}/\text{Nm}^3$  (at 6 % oxygen content for solid fuels and at 3 % oxygen content for liquid and gaseous fuels) for new and existing LCP pursuant to paragraph 1 of Article 7 and article 8 of this Regulation:

Fuel type		ELV (1) (2) $\text{mg}/\text{Nm}^3$
Solid fuels:		
	from 50 up to 500 MWth	600
	greater than 500 MWth	500
since 1 January 2016 r.		
	from 50 up to 500 MWth	600
	greater than 500 MWth	200
Liquid fuels:		
	from 50 up to 500 MWth	450
	above 500 MWth	400
Gaseous fuels:		
	from 50 up to 500 MWth	300
	greater than 500 MWth	200

(1) - for combustion plants specified under Article 8 of this Regulation having a heat generating capacity greater than 500 MWth, which shall have a length of operation time below 2000 hours per year following 2008 (for a random 5 year period), the ELVs of  $600 \text{ mg}/\text{Nm}^3$  shall apply since 31 December 2015. Since 1 January 2016, combustion plants having a heat generating capacity greater than 500 MWth and an operation time of less than 1500 hours per year (average over a 5 year period) shall fulfil the ELV of  $450 \text{ mg}/\text{Nm}^3$ .

(2) - by the 1 January 2018, to those combustion plants, which between 1 January 2000 and 1 January 2001 had permanently fired, and shall thereafter continue to permanently fire solid fuels of less than 10 % volatile substance content, the ELV of  $1200 \text{ mg}/\text{Nm}^3$  shall apply.

B. Emission Limit Values (ELV) for nitrogen dioxide, for new LCP pursuant to paragraph 2 of Article 7 of this Regulation, with the exemption of gas turbines:

Solid fuels  
(6 % oxygen content)

Fuel type	From 50 up to 100 MWth	From 100 up to 300 MWth	Greater than 300 MWth
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General case	400	200	200
Biomass	400	300	200

Liquid fuels  
(3 % oxygen content)

From 50 up to 100 MWth	From 100 up to 300 MWth	Greater than 300 MWth
400	200	200

Gaseous fuels  
(3 % oxygen content)

	From 50 up to 300 MWth	Greater than 300 MWth
Natural gas	150	100
Other gasses	200	200

Gas turbines

Emission Limit Values (ELV) for nitrogen dioxide, expressed in  $\mu\text{g}/\text{Nm}^3$  (at 15 % oxygen content) for single gas turbines pursuant to paragraph 2 of Article 7 of this Regulation (ELV shall be applicable to loading capacity of above 70 %):

Fuel type	Greater than 50 MWth (heat generating capacity in accordance with the BSS/ISO standards)
Natural gas	50 or 75(1)
Liquid fuels(2)	120
Gaseous fuels (other than natural gas)	120

(1) in the below listed cases, where the effectiveness rate of the gas turbine is determined based on the loading conditions in accordance to BSS/ISO standards:

- gas turbines, used for the combined generation of heat and electric power, having an effectiveness rate greater than 75%;
- gas turbines used in plants for combined generation having an annual average electricity effectiveness rate greater than 55%;
- gas turbines for mechanical work.

(2) - the above specified limits shall be applied only to gas turbines fired with light and medium distillation products.

For single cycle gas turbines, which are not covered by any of the above categories, but which have an effectiveness rate greater than 35%, as determined under the conditions specified by BSS/ISO for basal (baseline) loading, the emission limit values shall be set forth by the formula  $50\eta/35$ , where  $\eta$  is the effectiveness rate of the turbine, expressed in percent (and determined under the conditions specified in the BSS/ISO for basal loading).

**Annex No. 5 to paragraph 1 under Article 6; to paragraphs 1 and 2 under Article 7; subparagraph 1 under Article 21; subparagraphs 1 and 2 of paragraph 2 under Article 22; Articles 23 and 26; subparagraphs 1 and 2 of paragraph 1 under Article 28 and to § 7 of this Regulation.**

**Emission limit values for dust**

A. The Emission Limit Values (ELV) for dust, expressed in  $\text{B mg/Nm}^3$  (at 6 % oxygen content for solid fuels and at 3 % oxygen content for liquid and gaseous fuels ) for new and existing LCP under paragraph 1 of Article 7 and Article 8 of this Regulation:

Fuel type	Heat generating capacity, MWth	ELV, $\text{mg/Nm}^3$
Solid fuels	Equal to or greater than 500	50(2)
	Below 500	100
Liquid fuels (1)	All types of plants	50
Gaseous fuels	All types of plants	5
	Blast furnaces	10
	Gases from the steel producing industry, which may be utilised elsewhere	50

(1) - an ELV of  $100 \text{ mg/Nm}^3$  shall be permitted for plants of nominal heat generating capacity below 500 MWth, which are fired with liquid fuels of ash content greater than 0.06%

(2) an ELV of  $100 \text{ mg/Nm}^3$  shall be permitted for plants under the provisions of Article 8 of this Regulation, having a heat generating capacity equal to, or greater than 500 MWth, which are fired with solid fuels of specific heat producing capacity of 5,800 kJ/kg, and have a moisture content above 45 % (per weight), a combined total of moisture and ash contents above 60 % (per weight) and CaO content greater than 10%.

B. Emission Limit Values (ELV) for dust, expressed in  $\text{B mg/Nm}^3$  for new LCP under paragraph 2 of Article 7 of this Regulation, with the exemption of gas turbines:

**Solid fuels**

(6 % oxygen content)

From 50 up to 100 MWth	Greater than 100 MWth
50	30

**Liquid fuels**

(3 % oxygen content)

From 50 up to 100 MWth	Greater than 100 MWth
50	30

Gaseous fuels  
(3 % oxygen content)

In the general case	5
Blast furnace gas	10
Gases from the steel production industry	
which may be used elsewhere	30

**Annex 6 to paragraph 1 under Article 8; paragraph 1 under Article 10; and paragraph 1 under Article 14 of this Regulation.**

**An inventory of existing LCP**

№	Large Combustion Plant
<i>Power generation and supply sector</i>	
1.	TPP "Bobov Dol" - EAD
2.	TPP "Brickel" - EAD
3.	TPP "Varna" - EAD
4.	TPP "Maritza Iztok 2" - EAD
5.	" Maritza Iztok 3 Power generation company" - AD
6.	TPP "Maritza 3" - EAD
7.	"Toplofikatzia - Burgas" - EAD
8.	"Toplofikatzia Varna" - EAD, TFC "Vladislav Varnenchik "
9.	"Toplofikatzia Veliko Tarnovo" - EAD
10.	" Toplofikatzia Vratza" - EAD, TFC "Gradska"
11.	" Toplofikatzia "Vratza" - EAD, TFC "Mladost"
12.	" Toplofikatzia Gabrovo" - EAD
13.	" Toplofikatzia Kazanlak" - EAD
14.	" Toplofikatzia "Pleven" - EAD
15.	" Toplofikatzia Plovdiv" - EAD, TPP "Plovdiv-sever"
16.	" Toplofikatzia Plovdiv" - EAD, TPP "Plovdiv - yug"
17.	" Toplofikatzia Pernik" - EAD, TPP "Republika"
18.	" Toplofikatzia "Russe" - EAD, TPP "Russe-zapad"
19.	" Toplofikatzia "Russe" - EAD, TPP "Russe-iztok"
20.	" Toplofikatzia "Sliven" - EAD,
21.	" Toplofikatzia "Sofia" - EAD," MC "Zemlyane"
22.	" Toplofikatzia "Sofia" - EAD," MC "Lyulin"
23.	" Toplofikatzia "Sofia" - EAD," TPP "Sofia"
24.	" Toplofikatzia "Sofia" - EAD," TPP "Sofia - iztok"

25.	" Toplofikatzia "Shumen" - EAD
<i>Industry associated sector</i>	
26.	TPP at the "Agrobiachim" - AD, Stara Zagora city
27.	TPP at the "Vidachim" - AD, Vidin city
28.	TPP "Deven" - AD, Devnya city
29.	TPP at the "Zaharni Zavodi" - AD, Gorna Oryahovitza city
30.	TPP at "Kremikovtzy" - AD, Sofia city
31.	TPP at "LUKoil - Neftochim" - AD, Burgass city
32.	TPP at "Nova Plama" - AD, Pleven city
33.	TPP at "Pirin hart" - AD, Razlog city
34.	TPP at "Svilozha" - AD, Svishtov city
35.	TPP at "Fabrika za hartia - Stamboliisky", Stamboliisky city
36.	TPP "Chimenergo" - EAD, at "Chimco" - AD, Vratza

**Annex No. 7 to Article 12 of this Regulation**

**Thresholds for progressive limitation of SO<sub>2</sub> emissions discharged by existing plants**

SO <sub>2</sub> emissions from LCP during 1980, in kilotonnes	SO <sub>2</sub> Emission thresholds, in kilotonnes per year			Percent limitation versus emission during 1980			Percent limitation versus corrected emission values during 1980		
	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3
1734	1993	1998	2003	-19%	-25%	-31%	-19%	-25%	-31%
	1410	1300	1190						

**Annex No. 8 to Article 12 of this Regulation**

**Thresholds and progressive limitation of NO<sub>x</sub> emissions from existing plants**

NO <sub>x</sub> emissions( as NO <sub>2</sub> ) from LCP during 1980 in kilotonnes	NO <sub>x</sub> Emission thresholds, in kilotonnes per year		Percent limitation versus emission during 1980		Percent limitation versus corrected emission values during 1980	
	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2
155	1993	1998	1993	1998	1993	1998

	125	95	-19%	-39%	-19%	-39%
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### **Annex no. 9 to paragraph 2 under Article 28 of this Regulation**

#### **A. Procedures for control and evaluation of emissions from large combustion plants**

1. Sulphur dioxide, dust and nitrogen oxides concentrations shall be measured continuously at all large combustion plants having nominal heat generating capacity equal or greater than 100 MWth.
2. SO<sub>2</sub> and dust monitoring may be limited to internal regular measurements or to other appropriate procedures for the determining thereof, in the cases where such measurements or procedures, accepted and approved by the competent authorities, allow for the measurement of the concentrations.
3. For certain plants, not covered under subparagraph 1 above, the competent authorities may request, whenever deemed appropriate on discretion thereof, the conducting of continuous internal measurements of any one or of all three pollutants.
4. In cases where no continual internal measurements are required, the conducting of regular internal measurements shall be carried out at intervals of less than 6 months.
5. In the event of change occurring in the type of fuel used during the operational mode of the plant, the operators of LCP shall notify the relevant Regional Inspectorate of Environment and Water (RIEW), which on its part, pursuant to Article 6 of the Regulation No. 6 of 1999 on the Methods and Procedure for Measurement of Harmful Substance Point-source Emissions Discharged to the Atmosphere, shall determine whether the negotiated methods and equipment for conducting the measurements continue to be adequate or if they need to be changed.
6. Large combustion plants which are under the obligation of performing continuous internal measurements, shall not be exempt from performing control measurements in accordance to Chapter Four of Regulation No. 6 of 1999 on the Methods and Procedure for Measurement of Harmful Substance Point-source Emissions Discharged to the Atmosphere, for a period of more than one year.
7. The values of:
  - a) the 95% confidence intervals of results from single measurements shall not exceed the respective ELV for:
    - sulphur dioxide - by more than 20 %;
    - nitrogen oxide - by more than 20 %;
    - dust - by more than 30 %;
  - b) valid half-hour average rates and the daily average rates shall be obtained by subtracting the above said confidence interval values from each valid measurement of the one-hour average rates;
  - b) any day, having more than 3 invalid one-hour average rates due to technical equipment failure or maintenance of the automated system for continuous measurements, shall be excluded from the evaluation; whenever more than 10 days within a calendar year shall be excluded from evaluation due to any of the reasons stated above, the competent authority shall request the operator to take appropriate measures for improving the reliability of the continuous measurement automated systems.
8. For installations which need to comply with the degrees of desulphurisation, set forth under Annex No. 1 of this Regulation, the requirements established under subparagraph 7 above shall apply. Operators of such plants shall be responsible for the continuous monitoring of sulphur content in fuels fed into and consumed by the firing plant.

#### **B. Determining the combined total annual emissions discharged from LCP.**

1. For the purposes of determining the combined total amount of the emissions of sulphur dioxide, nitrogen oxides and dust, discharged in the course of every calendar year from combustion plants of nominal heat generating capacity equal to, or greater than 50 MWth, the competent authorities shall organise the implementation of annual inventory inspections.
2. Without regard to the provisions under Chapters Five and Six under the Regulation No. 6 of 1999 on the Methods and Procedure for Measurement of Harmful Substance Point-source Emissions Discharged to the Atmosphere, the operators of all LCP, operating under his/her control and situated

at a definite site, shall be responsible to submit at the RIEW for the respective region, accommodating the said LCP, the below specified information, within 3 months following completion of the calendar year:

a) combined total annual emissions of sulphur dioxide, nitrogen oxides and dust (determined as total amount of dispersed solid particles), discharged from a given LCP over the preceding year;

b) total annual amount of power supplied into the respective LCP, versus the net caloric worth of the individual fuels, allocated according to fuel type in following five categories: bio-mass, other solid fuels, liquid fuels, natural gas, and other gasses.

3. When a certain LCP is subject to obligatory continuous measurements, the operator shall calculate separately for each individual pollutant the sums in mass units per day, of emissions discharged of the specified pollutant, for all days, based on the volume flow rates of waste gasses.

4. When a certain LCP is not subject to continuous internal measurements, the evaluation of the combined total annual emissions shall be carried out by the operator using the method described under paragraph 6 of Article 25 of the Atmospheric Air Purity Act and the database from the regular periodical measurements.

Each RIEW, after receiving the data under subparagraph 2 above from the operators of LCP within its respective region, shall check their correctness and completeness and shall present them at the EWA within a maximum of three months from submission.

6. By the end of each calendar year, the EWA, in conjunction with the National Statistical Institute shall prepare a summary report on the results from the inventory inspections of emissions discharged from LCP for the preceding year and shall submit it at the MoEW.

7. Commencing from 1 January 2008, at 3 year regular intervals, and not later than 12 months from completion of the three year period concerned, the MoEW shall present at the European Commission a summary report on the results from the inventory inspections performed during the respective period, with additionally provided separate information on emissions from crude oil processing plants. Upon request from the Commission, the annual reports on any of the combustion plants shall be made available.

8. Effective since 1 January 2008, the MoEW shall annually report to the European Commission on all existing plants, covered under the provisions of Article 10 of this Regulation, along with submitting a report for the amount of consumed and non-consumed length of operational time, permitted for the remaining period of their functional life-span.