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## ***Technical Assistance for Institution Building of the Ministry of Environment in Enforcing Environmental and Climate Acquis***

(EuropeAid/135700/DH/SER/AL)

### **DRAFT FINAL DCM “ON SPECIAL PROVISIONS IN THE ENVIRONMENTAL PERMITS FOR LARGE COMBUSTION PLANTS”**

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<b>Contracting Authority:</b>	<b>Delegation of the European Union to Albania</b> <b>ABA Business Centre Rruga Papa Gjon Pali II, Tirana, Albania.</b> Mr. Kai Nagel, Sector Manager, Environment & Energy Tel: +355 4 222 8320, Fax: +355 4 223 0752 e-mail: <a href="mailto:Kai.Nagel@eeas.europa.eu">Kai.Nagel@eeas.europa.eu</a>
<b>Beneficiary:</b>	<b>Ministry of Tourism and Environment</b> <b>Norbert Jokl Str, ish ATSH, Tirana, Albania.</b> Evisi Kopliku Director, Department of Integration, Coordination, Agreements and Assistance Tel: +355694397595 e-mail: <a href="mailto:Evisi.Kopliku@turizmi.gov.al">Evisi.Kopliku@turizmi.gov.al</a>
<b>Contractor:</b>	<b>Agrotec SpA</b> <b>Lungotevere Michelangelo, 9 - 00192 Roma, Italia</b> Kastriot Koshaj Project Manager Tel: +39 063609381, Fax: +39 0636093861 e-mail: <a href="mailto:info@agrotec-spa.net">info@agrotec-spa.net</a>
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**Author of the draft DCM:**

Prof.Ass.Dr.MSc. Narin PANARITI – Deputy Team Leader – [narin\\_panariti@yahoo.co.uk](mailto:narin_panariti@yahoo.co.uk)

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**DRAFT FINAL**  
**18.10.2018**

**DECISION**  
**No.... date.....**

**“SPECIAL PROVISIONS IN THE ENVIRONMENTAL PERMITS FOR  
LARGE COMBUSTION PLANTS”**

Based on article 100 of the Constitution and *article xxx of the draft 2 version 1* of the Law “On environmental permits”, the Council of the Ministers, upon proposal of the Minister

**DECIDED:**

**Section 1 - Purpose**

The purpose of this Decision is to set additional conditions for the class A environmental permits set in the draft Law on “Environmental Permits”, which are specific for LCPs.

**Section 2 - Scope**

*Article 28 Scope*

1. This Decision shall apply to combustion plants, the total rated thermal input of which is equal to or greater than 50 MW, irrespective of the type of fuel used.
2. It shall apply only to combustion plants designed for production of energy with the exception of those which make direct use of the products of combustion in manufacturing processes.

**Section 3 - Exclusions**

*Article 28 Scope*

This Decision shall not apply to the following combustion plants:

- (a) plants in which the products of combustion are used for the direct heating, drying, or any other treatment of objects or materials;
- (b) post-combustion plants designed to purify the waste gases by combustion which are not operated as independent combustion plants;
- (c) facilities for the regeneration of catalytic cracking catalysts;
- (d) facilities for the conversion of hydrogen sulphide into sulphur;

- (e) reactors used in the chemical industry;
- (f) coke battery furnaces;
- (g) cowpers;
- (h) any technical apparatus used in the propulsion of a vehicle, ship or aircraft;
- (i) gas turbines and gas engines used on offshore platforms;
- (j) plants which use any solid or liquid waste as a fuel other than waste referred to in point (b) of paragraph 8 of Section 4.

## Section 4 - Definitions

### *Article 3 Definitions*

For the purposes of this Decision all the terms have the meaning as in the draft Law “On environmental Permits”. While the following terms have the meaning as below:

1. ‘fuel’ means any solid, liquid or gaseous combustible material;
2. ‘combustion plant’ means any technical apparatus in which fuels are oxidised in order to use the heat thus generated;
3. ‘stack’ means a structure containing one or more flues providing a passage for waste gases in order to discharge them into the air;
4. ‘operating hours’ means the time, expressed in hours, during which a combustion plant, in whole or in part, is operating and discharging emissions into the air, excluding start-up and shut-down periods;
5. ‘rate of desulphurisation’ means the ratio over a given period of time of the quantity of sulphur which is not emitted into air by a combustion plant to the quantity of sulphur contained in the solid fuel which is introduced into the combustion plant facilities and which is used in the plant over the same period of time;
6. ‘indigenous solid fuel’ means a naturally occurring solid fuel fired in a combustion plant specifically designed for that fuel and extracted locally;
7. ‘biomass’ means any of the following:
  - a. products consisting of any vegetable matter from agriculture or forestry which can be used as a fuel for the purpose of recovering its energy content;
  - b. the following waste:
    - i. vegetable waste from agriculture and forestry;
    - ii. vegetable waste from the food processing industry, if the heat generated is recovered;
    - iii. 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;
    - iv. cork waste;
    - v. 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 and which includes, in particular, such wood waste originating from construction and demolition waste;
8. “multi-fuel firing combustion plant” means any combustion plant which may be fired simultaneously or alternately by two or more types of fuel;
9. “gas turbine” means any rotating machine which converts thermal energy into mechanical work, consisting mainly of a compressor, a thermal device in which fuel is oxidised in order to heat the working fluid, and a turbine;
10. “gas engine” means an internal combustion engine which operates according to the Otto cycle and uses spark ignition or, in case of dual fuel engines, compression ignition to burn fuel;

11. "diesel engine" means an internal combustion engine which operates according to the diesel cycle and uses compression ignition to burn fuel;
13. "C<sub>proc</sub>" has the meaning given in Annex 2 of the Decision no.178 dated 6.3.2012 "On incineration of waste". Annex VI. Part 4. Point 1.
14. "C<sub>waste</sub>" has the meaning given in Annex 2 of the Decision no.178 dated 6.3.2012 "On incineration of waste". Annex VI. Part 4. Point 1.
15. "NEA" means National Environment Agency, which is the competent authority for issuing environmental permits.
16. "Ministry" means the ministry responsible for environment
17. "SIE" means the State Inspectorate in charge of Environment
18. "EP" means Environmental Permit
19. "LCP" means Large Combustion Plants

## **Section 5 - Aggregation rules**

### *Article 29 Aggregation rules*

1. Where the waste gases of two or more separate combustion plants are discharged through a common stack, the combination formed by such plants shall be considered as a single combustion plant and their capacities added for the purpose of calculating the total rated thermal input.
2. For the purpose of calculating the total rated thermal input of a combination of combustion plants referred to in paragraph 1, individual combustion plants with a rated thermal input below 15 MW shall not be considered.

## **Section 6 - Emission limit values**

### *Article 30 Emission limit values*

1. Waste gases from combustion plants shall be discharged in a controlled way by means of a stack, containing one or more flues, the height of which is calculated in such a way as to safeguard human health and the environment.
2. All permits for installations containing combustion plants shall include conditions ensuring that emissions into the air from these plants do not exceed the emission limit values set out in Part 1 of the Annex to this Decision.
3. The emission limit values set out in Part 1 of the Annex to this Decision as well as the minimum rates of desulphurisation set out in Part 4 of that Annex shall apply to the emissions of each common stack in relation to the total rated thermal input of the entire combustion plant. Where the Annex to this Decision provides that emission limit values may be applied for a part of a combustion plant with a limited number of operating hours, those limit values shall apply to the emissions of that part of the plant, but shall be set in relation to the total rated thermal input of the entire combustion plant.
4. The NEA may grant a derogation for a maximum of 6 months from the obligation to comply with the emission limit values provided for in paragraph 2 for sulphur dioxide in respect of a combustion plant which to this end normally uses low-sulphur fuel, in cases where the operator is unable to comply with those limit values because of an interruption in the supply of low-sulphur fuel resulting from a serious shortage.
5. NEA shall immediately inform the Ministry of any derogation granted under the paragraph 4.

6. The NEA may grant a derogation from the obligation to comply with the emission limit values provided for in paragraph 2, in cases where a combustion plant using only gaseous fuel has to resort exceptionally to the use of other fuels because of a sudden interruption in the supply of gas and for this reason would need to be equipped with a waste gas purification facility. The period for which such a derogation is granted shall not exceed 10 days except where there is an overriding need to maintain energy supplies.
7. The operator shall immediately inform the NEA of each specific case referred to in paragraph 6.
8. NEA shall inform the Ministry immediately of any derogation granted under the paragraph 6.
9. Where a combustion plant is extended, the emission limit values set out in Part 1 of Annex shall apply to the extended part of the plant affected by the change and shall be set in relation to the total rated thermal input of the entire combustion plant.
10. In the case of a change to a combustion plant, which may have consequences for the environment and which affects a part of the plant with a rated thermal input of 50 MW or more, the emission limit values as set out in Part 1 of the Annex to this Decision shall apply to the part of the plant which has changed in relation to the total rated thermal input of the entire combustion plant.
11. The emission limit values set out in Part 1 of the Annex to this Decision shall not apply to the following combustion plants:
  - (a) diesel engines;
  - (b) recovery boilers within installations for the production of pulp.

## Section 7 - Desulphurisation rate

### *Article 31 Desulphurisation rate*

1. For combustion plants firing indigenous solid fuel, which cannot comply with the emission limit values for sulphur dioxide referred to in Section 6, paragraph 2 due to the characteristics of this fuel, NEA may apply instead the minimum rates of desulphurisation set out in Part 4 of the Annex to this Decision, in accordance with the compliance rules set out in Part 5 of that Annex and with prior validation by the NEA of the **technical report** referred to in Section 14, paragraph 5.a.
2. For combustion plants firing indigenous solid fuel, which co-incinerate waste, and which cannot comply with the  $C_{proc}$  values for sulphur dioxide set out in Annex II, II.2.1 Daily average values of the Decision 178 dated 6.3.2012 "On incineration of waste", due to the characteristics of the indigenous solid fuel, NEA may apply instead the minimum rates of desulphurisation set out in Part 4 of the Annex of this Decision, in accordance with the compliance rules set out in Part 5 of that Annex.
3. In the case referred in paragraph 2,  $C_{waste}$  emission limit values for waste incineration plants as referred to in Decision 178 dated 6.3.2012 "On incineration of waste" shall be equal to 0 mg/Nm<sup>3</sup>.

## Section 8 - Combined heat and power

1. The application form for a class A environmental permit shall request from the operator of the combustion plant to provide the findings of the examination of the technical and economic feasibility for combined heat and power.
2. Where this feasibility is confirmed, bearing in mind the market and the distribution system, NEA shall request in the class A environmental permit that the operator shall develop the installations accordingly.

## **Section 9 - Geological storage of carbon dioxide**

### *Article 36 Geological storage of carbon dioxide*

1. When issuing a class A environmental permit for any combustion plants with a rated electrical output of 300 megawatts or more, for which the original construction licence or, in the absence of such a procedure, the original operating licence is granted after the entry into force of the specific legislation on the geological storage of carbon dioxide, NEA shall assess whether the following conditions are met by the operators:
  - (a) suitable storage sites are available,
  - (b) transport facilities are technically and economically feasible,
  - (c) it is technically and economically feasible to retrofit for carbon dioxide capture.
2. If the conditions laid down in paragraph 1 are met, the NEA shall request to the operator to provide a suitable space on the installation site for the equipment necessary to capture and compress carbon dioxide is set aside.
3. The NEA shall determine whether the conditions are met on the basis of the assessment referred to in paragraph 1 and other available information, particularly concerning the protection of the environment and human health.

## **Section 10 - Malfunction or breakdown of the abatement equipment**

### *Article 37 Malfunction or breakdown of the abatement equipment*

1. When drafting the class A environmental permit for any combustion plant, NEA shall set the procedures relating to malfunction or breakdown of the abatement equipment.
2. the class A environmental permit shall require the operator that in the case of a breakdown, must
  - a) reduce or close down operations if a return to normal operation is not achieved within 24 hours, or to operate the plant using low polluting fuels.
  - b) notify the NEA within 48 hours after the malfunction or breakdown of the abatement equipment.
  - c) not exceed 120 hours of cumulative duration of unabated operation in any 12-month period.
3. The NEA may grant a derogation from the time limits set out in paragraph 2, letters (a) and (c) in one of the following cases:
  - (a) there is an overriding need to maintain energy supplies;
  - (b) the combustion plant with the breakdown would be replaced for a limited period by another plant which would cause an overall increase in emissions.

## **Section 11 - Self-monitoring of emissions into air**

### *Article 38 Monitoring of emissions into air*

1. When drafting the class A environmental permit for any combustion plant, NEA shall set to the operators requirements regarding the self-monitoring of emissions into air.
2. The self-monitoring of air polluting substances shall be carried out by the operator in accordance with Part 3 of the Annex to this Decision.
3. The installation and functioning of the automated monitoring equipment shall be subject to control and to annual surveillance tests by SIEF as set out in Part 3 of the Annex to this Decision.



4. The NEA shall determine the location of the sampling or measurement points to be used by the operator for the self-monitoring of emissions.
5. The NEA shall ask from the operator that all self-monitoring results be recorded, processed and presented in such a way as to enable the NEA to verify compliance with the operating conditions and emission limit values which are included in the permit.
6. The minister, upon proposal of NEA shall issue an Order on the processing, form of recording and presentation of the self-monitoring results.

## **Section 12 - Compliance with emission limit values**

### *Article 39 Compliance with emission limit values*

SEI shall consider that the emission limit values for air are complied with if the operator has satisfied the conditions set out in Part 4 of the Annex to this Decision.

## **Section 13 - Multi-fuel firing combustion plants**

### *Article 40 Multi-fuel firing combustion plants*

1. In the case of a multi-fuel firing combustion plant involving the simultaneous use of two or more fuels, the NEA shall set the emission limit values in accordance with the following steps:
  - (a) taking the emission limit value relevant for each individual fuel and pollutant corresponding to the total rated thermal input of the entire combustion plant as set out in Part 2 of the Annex to this Decision;
  - (b) determining fuel-weighted emission limit values, which are obtained by multiplying the individual emission limit value referred to in point (a) by the thermal input delivered by each fuel, and dividing the product of multiplication by the sum of the thermal inputs delivered by all fuels,
  - (c) aggregating the fuel-weighted emission limit values.

## **Section 14 - Reporting**

### *Article 72.3.4 Reporting by Member States*

1. For all combustion plants in the RoA, covered by this Decision NEA shall establish an annual inventory of the sulphur dioxide, nitrogen oxides and dust emissions and energy input.
2. Taking into account the aggregation rules set out in Section 4 **Aggregation rules**, each operator of each combustion plant shall provide for to the NEA the following data:
  - (a) the total rated thermal input (MW) of the combustion plant;
  - (b) the type of combustion plant: boiler, gas turbine, gas engine, diesel engine, other (specifying the type);
  - (c) the date of the start of operation of the combustion plant;
  - (d) the total annual emissions (tonnes per year) of sulphur dioxide, nitrogen oxides and dust (as total suspended particles);
  - (e) the number of operating hours of the combustion plant;
  - (f) the total annual amount of energy input, related to the net calorific value (TJ per year), broken down in terms of the following categories of fuel: coal, lignite, biomass, peat, other solid fuels (specifying the type), liquid fuels, natural gas, other gases (specifying the type).
3. The annual plant-by-plant data contained in these inventories shall be made available to the Ministry upon request.

4. A summary of the inventories shall be made available to the Ministry every 3 years within 12 months from the end of the first three-year period of operation of the combustion plant and after it. This summary shall show separately the data for combustion plants within refineries.
5. 4 NEA shall report the following data **annually** to the Ministry:
  - (a) for combustion plants to which Section 6 **Desulphurisation rate** applies, the sulphur content of the indigenous solid fuel used and the rate of desulphurisation achieved, averaged over each month. For the first year where Section 6 **Desulphurisation rate** is applied, the technical justification of the non-feasibility of complying with the emission limit values referred to in Section 5, paragraph 2 **Emission limit values** shall also be reported; and
  - (b) for combustion plants which do not operate more than 1 500 operating hours per year as a rolling average over a period of 5 years, the number of operating hours per year.

### **Section 15 - Final provisions**

1. The Ministry, the ministry in charge of industry, the NEA and the State Inspectorate in charge of environment and the State Inspectorate in charge of industry are responsible to implement and enforce this Decision.
2. This Decision shall be published in the Official Gazette and takes effect once the draft Law “On environmental permits” is in force.

**MINISTER**

**BLENDI KLOSI**

## Annex: Technical provisions relating to large combustion plants

### ANNEX V Technical provisions relating to combustion plants

#### **PART 1: Emission limit values for combustion plants referred to in Section 6(2)**

##### *PART 2 Emission limit values for combustion plants referred to in Article 30(3)*

1. All emission limit values shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correction for the water vapour content of the waste gases and at a standardised O<sub>2</sub> content of 6 % for solid fuels, 3 % for combustion plants other than gas turbines and gas engines using liquid and gaseous fuels and 15 % for gas turbines and gas engines.

In case of combined cycle gas turbines with supplementary firing, the standardised O<sub>2</sub> content may be defined by the NEA, taking into account the specific characteristics of the installation concerned.

2. Emission limit values (mg/Nm<sup>3</sup>) for SO<sub>2</sub> for combustion plants using solid or liquid fuels with the exception of gas turbines and gas engines

Total rated thermal input (MW)	Coal and lignite and other solid fuels	Biomass	Peat	Liquid fuels
50-100	400	200	300	350
100-300	200	200	300 250 in case of fluidised bed combustion	200
> 300	150 200 in case of circulating or pressurised fluidised bed combustion	150	150 200 in case of fluidised bed combustion	150

3. Emission limit values (mg/Nm<sup>3</sup>) for SO<sub>2</sub> for combustion plants using gaseous fuels with the exception of gas turbines and gas engines

In general	35
Liquefied gas	5
Low calorific gases from coke oven	400
Low calorific gases from blast furnace	200

4. Emission limit values (mg/Nm<sup>3</sup>) for NO<sub>x</sub> for combustion plants using solid or liquid fuels with the exception of gas turbines and gas engines

Total rated thermal input (MW)	Coal and lignite and other solid fuels	Biomass and peat	Liquid fuels
50-100	300 400 in case of pulverised lignite combustion	250	300
100-300	200	200	150
> 300	150 200 in case of pulverised lignite combustion	150	100

5. Gas turbines (including CCGT) using light and middle distillates as liquid fuels shall be subject to an emission limit value for NO<sub>x</sub> of 50 mg/Nm<sup>3</sup> and for CO of 100 mg/Nm<sup>3</sup>

Gas turbines for emergency use that operate less than 500 operating hours per year are not covered by the emission limit values set out in this point. The operator of such plants shall record the used operating hours.

6. Emission limit values (mg/Nm<sup>3</sup>) for NO<sub>x</sub> and CO for gas fired combustion plants

	NO <sub>x</sub>	CO
Combustion plants other than gas turbines and gas engines	100	100
• Gas turbines (including CCGT - Combined cycle gas turbine)	50 <sup>(7)</sup>	100
Gas engines	75	100

For gas turbines (including CCGT), the NO<sub>x</sub> and CO emission limit values set out in this point apply only above 70 % load.

<sup>(7)</sup> For single cycle gas turbines having an efficiency greater than 35 % – determined at ISO base load conditions – the emission limit value for NO<sub>x</sub> shall be  $50 \times \eta / 35$  where  $\eta$  is the gas turbine efficiency at ISO base load conditions expressed as a percentage.

Note under table 6 of Part 2 of Annex V.

Gas turbines and gas engines for emergency use that operate less than 500 operating hours per year are not covered by the emission limit values set out in this point. The operator of such plants shall record the used operating hours.

7. Emission limit values (mg/Nm<sup>3</sup>) for dust for combustion plants using solid or liquid fuels with the exception of gas turbines and gas engines

Total rated thermal input (MW)	
50-300	20
> 300	10

	20 for biomass and peat
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8. Emission limit values (mg/Nm<sup>3</sup>) for dust for combustion plants using gaseous fuels with the exception of gas turbines and gas engines

In general	5
Blast furnace gas	10
Gases produced by the steel industry which can be used elsewhere	30

**PART 2: Emission monitoring**

*PART 3 Emission monitoring*

1. The concentrations of SO<sub>2</sub>, NO<sub>x</sub> and dust in waste gases from each combustion plant with a total rated thermal input of 100 MW or more shall be measured continuously.  
 The concentration of CO in waste gases from each combustion plant firing gaseous fuels with a total rated thermal input of 100 MW or more shall be measured continuously.
2. The NEA may decide not to require the continuous measurements referred to in point 1 in the following cases:
  - (a) for combustion plants with a life span of less than 10 000 operational hours;
  - (b) for SO<sub>2</sub> and dust from combustion plants firing natural gas;
  - (c) for SO<sub>2</sub> from combustion plants firing oil with known sulphur content in cases where there is no waste gas desulphurisation equipment;
  - (d) for SO<sub>2</sub> from combustion plants firing biomass if the operator can prove that the SO<sub>2</sub> emissions can under no circumstances be higher than the prescribed emission limit values.
3. Where continuous measurements are not required, measurements of SO<sub>2</sub>, NO<sub>x</sub>, dust and, for gas fired plants, also of CO shall be required at least once every 6 months.
4. For combustion plants firing coal or lignite, the emissions of total mercury shall be measured at least once per year.
5. As an alternative to the measurements of SO<sub>2</sub> and NO<sub>x</sub> referred to in point 3, other procedures, verified and approved by the NEA, may be used to determine the SO<sub>2</sub> and NO<sub>x</sub> emissions. Such procedures shall use relevant CEN standards or, if CEN standards are not available, ISO, national or other international standards which ensure the provision of data of an equivalent scientific quality.
6. The operator shall inform the NEA of significant changes in the type of fuel used or in the mode of operation of the plant. The NEA shall decide whether the monitoring requirements laid down in points 1 to 4 are still adequate or require adaptation.
7. The continuous measurements carried out in accordance with point 1 shall include the measurement of the oxygen content, temperature, pressure and water vapour content of the waste gases. The

continuous measurement of the water vapour content of the waste gases shall not be necessary, provided that the sampled waste gas is dried before the emissions are analysed.

8. Sampling and analysis of relevant polluting substances and measurements of process parameters as well as the quality assurance of automated measuring systems and the reference measurement methods to calibrate those systems shall be carried out in accordance with CEN standards. If CEN standards are not available, ISO, national or other international standards which ensure the provision of data of an equivalent scientific quality shall apply.

The automated measuring systems shall be subject to control by means of parallel measurements with the reference methods at least once per year.

The operator shall inform the NEA about the results of the checking of the automated measuring systems.

9. At the 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 oxides	20 %
Dust	30 %

10. The validated hourly and daily average values shall be determined from the measured valid hourly average values after having subtracted the value of the confidence interval specified in point 9.

Any day in which more than three hourly average values are invalid due to malfunction or maintenance of the automated measuring system shall be invalidated. If more than 10 days over a year are invalidated for such situations the NEA shall require the operator to take adequate measures to improve the reliability of the automated measuring system.

11. In the case of plants which must comply with the rates of desulphurisation referred to in Section 7, the sulphur content of the fuel which is fired in the combustion plant shall also be regularly monitored. The operator shall inform the NEA of any substantial changes in the type of fuel used.

### **PART 3: Assessment of compliance with emission limit values**

#### *PART 4 Assessment of compliance with emission limit values*

1. In the case of continuous measurements, the emission limit values set out in Part 1 shall be regarded as having been complied with if the evaluation of the measurement results indicates, for operating hours within a calendar year, that all of the following conditions have been met:

- (a) no validated monthly average value exceeds the relevant emission limit values set out in Part 1;
- (b) no validated daily average value exceeds 110 % of the relevant emission limit values set out in Part 1;

- (c) in cases of combustion plants composed only of boilers using coal with a total rated thermal input below 50 MW, no validated daily average value exceeds 150 % of the relevant emission limit values set out in Part 1,
- (d) 95 % of all the validated hourly average values over the year do not exceed 200 % of the relevant emission limit values set out in Part 1.

The validated average values are determined as set out in point 10 of Part 2.

2. Where continuous measurements are not required, the emission limit values set out in Part 1 shall be regarded as having been complied with if the results of each of the series of measurements or of the other procedures defined and determined according to the rules laid down by the competent authorities do not exceed the emission limit values.

#### **PART 4: Minimum rate of desulphurisation**

##### *PART 5 Minimum rate of desulphurisation*

Minimum rate of desulphurisation for combustion plants referred to in Section 6(3)

<b>Total rated thermal input (MW)</b>	<b>Minimum rate of desulphurisation</b>
50-100	93 %
100-300	93 %
> 300	97 %

#### **PART 5: Compliance with rate of desulphurisation**

##### *PART 6 Compliance with rate of desulphurisation*

The minimum rates of desulphurisation set out in Part 4 of this Annex shall apply as a monthly average limit value.

#### **PART 6: Average emission limit values for multi-fuel firing combustion plants within a refinery**

##### *PART 7 Average emission limit values for multi-fuel firing combustion plants within a refinery*

Average emission limit values (mg/Nm<sup>3</sup>) for SO<sub>2</sub> for multi-fuel firing combustion plants within a refinery, with the exception of gas turbines and gas engines, which use the distillation and conversion residues from the refining of crude-oil for own consumption, alone or with other fuels : 600 mg/Nm<sup>3</sup>.

This emission limit value shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correction for the water vapour content of the waste gases and at a standardised O<sub>2</sub> content of 6 % for solid fuels and 3 % for liquid and gaseous fuels.