L.N. 164 of 2002

ENVIRONMENT PROTECTION ACT, 20012
(ACT NO. XX OF 2001)

Limitations of Emissions of Certain Pollutants into the Air from Large Combustion Plants Regulations, 2002

BY virtue of the powers conferred by article 9 of the Environment Protection Act, 2001, hereinafter referred to as "the Act", the Minister for Home Affairs and the Environment has made the following regulations:-

Citation, commencement and scope.

1. (1) The title of these regulations is the Limitation of Emissions of Certain Pollutants into the Air from Large Combustion Plants Regulations, 2002.

(2) These regulations shall come into force on such date as the Minister responsible for the environment may by notice in the Gazette appoint, and different dates may be so appointed for different provisions and different purposes of these regulations.

(3) A notice under sub-regulation (2) of this regulation may make such transitional provisions as appear to the Minister responsible for the environment to be necessary or expedient in connection with the provisions thereby brought into force.

Interpretation.

2. For the purposes of these regulations -

"emission" means the discharge of substances from the combustion plant into the air;

"waste gases" means gaseous discharges containing solid, liquid or gaseous emissions; their volumetric flow rates shall be expressed in cubic metres per hour at standard temperature (273 K) and pressure (101,3 kPa) after correction for the water vapour content, hereinafter referred to as (Nm3/h);

"emission limit value" means the permissible quantity of a substance contained in the waste gases from the combustion plant which may be discharged into the air during a given period; it shall be calculated in terms of mass per volume of the waste gases expressed in mg/Nm^3, assuming an oxygen content by volume in the waste gas of 3 % in the case of liquid and gaseous fuels, and 6% in the case of solid fuels, and 15% in the case of gas turbines;

"rate of desulphurization" means the ratio of the quantity of sulphur which is is not emitted into the air at the combustion plant site over a given period, to the quantity of sulphur contained in the fuel which is introduced into the combustion plant facilities and which is used over the same period;

"operator" means any natural or legal person who operates the combustion plant, or who has or has been delegated decisive economic power over it;

"fuel" means any solid, liquid or gaseous combustible material used to fire the combustion plant, with the exception of waste covered by the Waste Management (Incineration) Regualtions 2001;

"combustion plant" means any technical apparatus in which fuels are oxidized in order to use the heat thus generated;

"multi-fuel firing unit" means any combustion plant which may be fired simultaneously or alternately by two or more types of fuel;

"new plant" means any combustion plant for which the original construction licence or, in the absence of such a procedure, the original operating licence was granted on or after 1 July 1987;

"existing plant" means any combustion plant for which the original construction licence or, in the absence of such a procedure, the original operating licence was granted before 1 July 1987;

"biomass" means products consisting of any whole or part of a vegetable matter from agriculture or forestry which can be used as a fuel for the purpose of recovering its energy content and the following waste used as a fuel:

(a) vegetable waste from agriculture and forestry;

(b) vegetable waste from the food processing industry, if the heat generated 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) Cork waste;

(e) 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;

"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;

"Minister" shall mean the Minister responsible for the environment;

L.N. 107 of 2002.

"Competent Authority" means the Malta Environment and Planning Authority as prescribed by the notice entitled Nomination of the Malta Environment and Planning Authority as the competent authority, and such other body or person as the Minister responsible for the Environment may by order in the Gazette prescribe and different bodies or persons may be designated as the competent authority for different provisions and different purposes of these regulations.

Type of combustion plants.

3. The regulations 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.

In particular, these regulations shall not apply to the following plants:

(1) (a) plants in which the products of combustion are used for the direct heating, drying, or any other treatment of objects or materials e.g. reheating furnaces, furnaces for heat treatment,

(b) post-combustion plants i.e. any technical apparatus designed to purify the waste gases by combustion which is not operated as an independent combustion plant,

(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 used on offshore platforms;

(j) gas turbines licensed before 27 November 2002 or which in the view of the competent authority are the subject of a full request for a licence before 27 November 2002 provided that the plant is put into operation no later than 27 November 2003 without prejudice Regualtion 8(1) and Annex VIII(A) and (B);

(2) Where two or more separate new plants are installed in such a way that, taking technical and economic factors into account, their waste gases could, in the judgment of the competent authorities, be discharged through a common stack, the combination formed by such plants is to be regarded as a single unit.

Programmes.

4. (1) The competent authority shall draw up appropriate programmes for the progressive reduction of total annual emissions from existing plants, whereby timetables and implementing procedures will be set out.

(2) The competent authority shall, in accordance with the programmes mentioned in sub regulation (1), continue to comply with the emission ceilings and with the corresponding percentage reductions laid down for sulphur dioxide in Annex I, columns 1 to 6, and for oxides of nitrogen in Annex II, columns 1 to 4, by the dates specified in those Annexes, until the implementation of Regulation 4 that apply to existing plants:

Provided that when the programmes are being carried out, the competent authority shall also determine the total annual emissions in accordance with Annex VIII(C).

Licences.

5. (1) The competent authority shall, take appropriate measures to ensure that all licences for the construction or, in the absence of such a procedure, for the operation of new plants which in the view of the competent authority are the subject of a full request for a licence before 27 November 2002, provided that the plant is put into operation no

later than 27 November 2003, contain conditions relating to compliance with the emission limit values laid down in part A of annex III to VII in respect of sulphur dioxide, nitrogen oxides and dust:

Provided also that point 2 of Annex VIII provisions shall be applied from 27.11.2004.

(2) The competent authority shall take appropriate measures to ensure that all licences for the construction or, in the absence of such a procedure, for the operation of new plants, other than those covered by sub regulation (1), contain conditions relating to compliance with the emission limit values laid down in Part B of annexes III to VII in respect of sulphur dioxide, nitrogen oxides and dust.

(3) Without prejudice to the Integrated Pollution Prevention and Control Regulations, 2002 and the Ambient Air Quality Assessment and Management Regulations, 2001, the competent authority shall, by 1 January 2008 at the latest, achieve significant emission reductions by:

(a) taking appropriate measures to ensure that all licences for the operation of existing plants contain conditions relating to compliance with the emission limit values established for new plants referred to in subregulation (1); or

(b) ensuring that existing plants are subject to the national emission reduction plan referred to in subregulation (6) and where applicable applying regulations 6, 9, and 10.

(4) Without prejudice to the Integrated Pollution, Prevention and Control Regulations, 2002 and the Ambient Air Quality Assessment and Management Regulations, 2001, existing plants may be exempted from compliance with the emission limit values referred to in sub regulation (3) and from their inclusion in the national emission reduction plan on the following conditions:

a. if the operator of an existing plant undertakes, in a written declaration submitted by 30 June 2004 at the latest to the competent authority, not to operate the plant for more than 20000 operational hours starting from 1 January 2008 and ending no later than 31 December 2015,

b. if the operator is required to submit each year to the competent authority a record of the used and unused time allowed for the plants' remaining operational life.

(5) The competent authority may require compliance with emission limit values and time limits for implementation, which are more stringent than those, set out in subregulations (1) to (4) and in regulation 12:

Provided also that the competent authority may include other pollutants, and may impose additional requirements or adaptation of plant to technical progress.

(6) The competent authority may, without prejudice to these regulations and to the Integration Pollution Prevention and Control Regulations, 2002, and taking into consideration the costs and benefits as well as their obligations under the Ambient Air Quality Assessment and Management Regulations, 2001, define and implement a national emission reduction plan for existing plants, taking into account, *inter alia*, compliance with the ceilings as set out in Annexes I and II:

Provided that the national emission reduction plan shall reduce the total annual emissions of nitrogen oxides (Nox), sulphur dioxide (SO2) and dust from existing plants to the levels that would have been achieved by applying the emission limit values referred to in subregulation 3 to the existing plants in operation in the year 2000, (including a rehabilitation plan in 2000, approved by the competent authority, to meet emission reductions required by national legislation) on the basis of each plant's actual annual operating time, fuel used and thermal input, averaged over the last five years of operation up to and including 2000:

Provided also that the closure of a plant included in the national emission reduction plan shall not result in an increase in the total annual emissions from the remaining plants covered by the plan:

Provided also that the national emission reduction plan may under no circumstances exempt a plant from the provisions laid down in any other relevant regulations, including *inter alia* the Ambient Air Quality Assessment and Management regulations 2001.

New plants.

6. The competent authority shall ensure that the technical and economic feasibility of providing for the combined generation of heat and power is examined, in the case of new plants for which the licence is granted pursuant to regulation 5(b) or plants covered by regulation 12:

Provided also that where this feasibility is confirmed, bearing in mind the market and the distribution situation, installations shall be developed accordingly.

Emission Limit Values for Oxides of Nitrogen.

7. In the case of construction of combustion plants which are likely to have significant effects on the environment in another state, the competent authority shall ensure that all appropriate information and consultation takes place, in accordance with Part V, regualtion 34(1) of the Environmental Impact Assessment Regulations, 2001.

Conditions for liecences.

8. (1) The competent authority shall stipulate in conditions of the licences referred to in Regulation 6 providing for procedures relating to malfunction or breakdown of the abatement equipment:

Provided also that in any case the competent authority shall be notified within 48 hours, and in no circumstances shall the cumulative duration of unabated operation in any twelve-month period exceed 120 hours.

(2) The competent authority may allow exceptions to the limits of 24 hours and 120 hours above in cases where, in their judgement:

(a) there is an overriding need to maintain energy supplies, or

(b) the plant with the breakdown would be replaced for a limited period by another plant, which would cause an overall increase in emissions.

Suspension and Derogation.

9. (1) The competent authority may allow a suspension for a maximum of six months from the obligation to comply with the emission limit values provided for in Article 5 for sulphur dioxide in respect of a plant which to this end normally uses low-sulphur fuel, in cases where the operator is unable to comply with these limit values because of an interruption in the supply of low-sulphur fuel resulting from a serious shortage.

(2) The competent authority may allow a derogation from the obligation to comply with the emission limit values provided for in regualtion 5 in cases where a plant which normally uses only gaseous fuel, and which would otherwise need to be equipped with a waste gas purification facility, has to resort exceptionally, and for a short period not exceeding 10 days, to the use of other fuels because of a sudden interruption in the supply of gas.

(3) The competent authority shall immediately be informed of each specific case as it arises, by the operator.

10. (1) The competent authority shall for the purpose of granting the licence referred to in rArticleegulation 5 (1) and (2), and in the case of such plants covered by regulation 5(3) or regulation 12 for a new plant with a multi-fuel firing unit involving the simultaneous use of two or more fuels, set the emission limit values as follows: Emission Limit Values.

(a) First, by taking the emission limit value relevant for each individual fuel and pollutant corresponding to the rated thermal input of the combustion plant as given in Annexes III to VII,

(b) secondly, by determining fuel-weighted emission limit values, which are obtained by multiplying the above individual emission limit value by the thermal input delivered by each fuel, the product of multiplication being divided by the sum of the thermal inputs delivered by all fuels,

(c) thirdly, by aggregating the fuel-weighted limit values:

Provided that in multi-firing units using the distillation and conversion residues from crude-oil refining for own consumption, alone or with other fuels, the provisions for the fuel with the highest emission limit value (determinative fuel) shall apply, notwithstanding sub-regulation (1) above, if during the operation of the combustion plant the proportion contributed by that fuel to the sum of the thermal inputs delivered by all fuels is at least 50%:

Provided further that where the proportion of the determinative fuel is lower than 50 %, the emission limit value is determined on a pro rata basis of the heat input supplied by the individual fuels in relation to the sum of the thermal inputs delivered by all fuels as follows:

(a) first, by taking the emission limit value relevant for each individual fuel and pollutant corresponding to the rated heat input of the combustion plant as given in Annexes III to VII,

(b) secondly, by calculating the emission limit value of the determinative fuel (fuel with the highest emission limit value according to Annexes III to VII and, in the case of two fuels having the same emission limit value, the fuel with the higher thermal input); this value is obtained by multiplying the emission limit value laid down in Annexes III to VII for that fuel by a factor of two, and subtracting from this product the emission limit value of the fuel with the lowest emission limit value,

(c) thirdly, by determining the fuel-weighted emission limit values, which are obtained by multiplying the calculated fuel emission limit value by the thermal input of the determinative fuel and the other individual emission limit values by the thermal input delivered by each fuel, the product of multiplication being divided by the sum of the thermal inputs delivered by all fuels,

(d) fourthly, by aggregating the fuel-weighted emission limit values.

(2) As an alternative to sub regulation 2, the following average emission limit values for sulphur dioxide may be applied (irrespective of the fuel combination used):

(a) for plants referred to in regulation 5(1) and (3): 1000 mg/Nm^3, averaged over all such plants within the refinery;

(b) for new plants referred to in regulation 5(2): 600mg/Nm^3, averaged over all such plants within the refinery, with the exception of gas turbines.

Provided that the competent authority shall ensure that the application of this provision does not lead to an increase in emissions from existing plants.

(3) For the purpose of granting the licence referred to in regulation 5 (1) and (2) for new plants with a multi-fuel firing unit involving the alternate use of two or more fuels, and in the case of such plants covered by regulation 5 (3) or regulation 12 the emission limit values set in Annexes III to VII corresponding to each fuel used shall be applied.

(4) Notwithstanding Annex III, plants of a rated thermal input equal to or greater than 400 MW, which do not operate more than the following numbers of hours a year (rolling average over a period of five years) -

-Until 31 December 2015, 2,000 hours;

-From 1 January 2016, 1,500 hours,

shall be subject to a limit value for sulphur dioxide emissions of 800 mg/Nm^3:

Provided that this regulation shall apply to new plants for which the licence is granted pursuant to regulation 5 (2).

Discharge of waste gases.

11. No operator may discharge waste gases from combustion plants, unless it does so in a controlled fashion acceptable to the competent authority by means of a stack:

Provided that the licence referred to in regulation 5 and licences for combustion plants covered by regulation 12 shall lay down the discharge conditions:

Provided also that the Authority shall in particular ensure that the stack height is calculated in such a way as to safeguard health and the environment.

Combustion plant.

12. (1) Where a combustion plant is extended by at least 50 MW, the emission limit value to be applied to the new part of the plant shall be fixed by the competent authority in relation to the thermal capacity of the entire plant. This provision shall not apply in the cases referred to in regulation 10 (2) and (3).

(2) Where the operator of a combustion plant is envisaging a change according to regulation 2 paragraph (13), and regulation 24 of the Integrated Pollution Prevention and Control Regulations, 2002, the emission limit values as set out in part B of Annexes III to VII in respect of sulphur dioxide, nitrogen oxides and dust shall apply.

Monitoring.

13. (1) The competent authority shall take the necessary measures to ensure the monitoring, in accordance with Annex VIII (A), of emissions from the combustion plants covered by these regulations and of all other values required for the implementation of these regulations, such that the competent authority may require that such monitoring shall be carried out at the operator's expense.

(2) The operator shall inform the competent authority within such time limits as may be established by the competent authority about the results of the continuous measurements, the checking of the measuring equipment, and the individual measurements and about all other measurements carried out in order to assess compliance with these regulations.

Continuous measurements.

14. (1) In the event of continuous measurements, the emission limit values set out in Annexes III to VII shall be regarded as having been complied with by the operator if the evaluation of the results indicates, for operating hours within a calendar year, that:

(a) none of the calendar monthly mean values exceeds the emission limit values; and

(b) in the case of:

-sulphur dioxide and dust: 97 % of all the 48 hourly mean values do not exceed 110 % of the emission limit values,

-oxides of nitrogen: 95 % of all the 48 hourly mean values do not exceed 110 % of the emission limit values.

The periods referred to in regulation 8 as well as start up and shut down periods shall be disregarded.

(2) In cases where only discontinuous measurements or other appropriate procedures for determination are required, the emission limit values set out in Annexes III to VII shall be regarded as having been complied with by the operator 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 authority do not exceed the emission limit values.

(3) For new plants for which the licence is granted pursuant to regulation 5(b), the emission limit values shall be regarded, for operating hours within a calendar year, as complied with if:

(a) no validated daily average value exceeds the relevant figures set out in part B of Annex III to VII, and of the relevant figures, and

(b) 95% of all validated hourly average values over the year do not exceed 200% of part B of Annexes III to VII relevant figures:

Provided that the validated average values are determined as set out in point A.6 of Annex VIII, and regulation 8 periods as well as start up and shut down periods shall be disregarded.

Offences.

15. Any person shall be guilty of an offence under these regulations if:

(a) he fails to comply with any provision of these regulations or fails to comply with permit conditions or with any order lawfully given in terms of any provision of these regulations; or

(b) he contravenes any restriction, prohibition or requirement imposed by or under these regulations; or

(c) he acts in contravention of any of the provisions of these regulations; or

(d) he conspires or attempts, or aids, or abets, any other person by whatever means, including advertising, counselling or procurement to contravene the provisions of these regulations or to fail to comply with any such provisions (including any order lawfully given in terms of any of the provision of these regulations) or to contravene any restriction, prohibition or requirement imposed by or under the said regulations.

Penalties.

16. Any person who commits an offence against these regulations shall, on conviction, be liable:

(a) on a first conviction to a fine (*multa*) of not less than five hundred liri but not exceeding one thousand liri;

(b) on a second or subsequent convictions, to a fine (*multa*) of not less than one thousand liri, but not exceeding two thousand liri or to imprisonment for a term not exceeding two years, or to both such fine and imprisonment:

Provided that whenever any person is found guilty of committing an offence under these regulations by means of a vehicle, the owner of the said vehicle, where applicable, is held liable in the same manner and degree:

Provided further that the court shall order any person who has been found guilty of committing an offence against these regulations to pay for the expenses incurred by the competent authority as a result of the said offence, the revocation of the permit issued by the competent authority and the confiscation of the *corpus delicti*, including the vehicle, if applicable.

Applicability of Cap. 9.

17. (1) The provisions of articles 23 and 30 of the Criminal Code shall, *mutatis mutandis*, apply to proceedings in respect of offences against these regulations, so however that the disqualification from holding or obtaining a licence, permit or authority shall in no case be for less than one year.

(2) Notwithstanding the provisions of article 370 of the Criminal Code, proceedings for an offence against these regulations shall be held before the Court of Magistrates (Malta) or the Court of Magistrates (Gozo), as the case may be, and shall be in accordance with the provisions of the Criminal Code regulating the procedure before the said courts as courts of criminal judicature.

(3) Notwithstanding the provisions of the Criminal Code, the Attorney General shall always have a right of appeal to the Court of Criminal Appeal from any judgement given by the Court of Magistrates (Malta) or the Court of Magistrates (Gozo) in respect of proceedings for any offence against these regulations.

Language of the Annexes.

18. The Annexes I to X to these regulations are being published in the English language with the English text of these regulations.

ANNEX I

CEILINGS AND REDUCTION TARGETS FOR EMISSIONS OF SO_2 FROM EXISTING PLANTS (1) (2)

Member State	0	1	2	3	4	5	6	7	8	9
	SO_2 emissions by large combustion plants 1980 ktonnes	Emission ceiling (ktonnes/year)			% reduction over 1980 emissions			% reduction over adjusted 1980 emissions		
		Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3
		1993	1998	2003	1993	1998	2003	1993	1998	2003
Belgium	530	318	212	159	- 40	- 60	- 70	- 40	- 60	- 70
Denmark	323	213	141	106	- 34	- 56	- 67	- 40	- 60	- 70
Germany	2 225	1 335	890	668	- 40	- 60	- 70	- 40	- 60	- 70
Greece	303	320	320	320	+ 6	+ 6	+ 6	- 45	- 45	- 45
Spain	2 290	2 290	1 730	1 440	0	- 24	- 37	- 21	- 40	- 50
France	1 910	1 146	764	573	- 40	- 60	- 70	- 40	- 60	- 70
Ireland	99	124	124	124	+ 25	+ 25	+ 25	- 29	- 29	- 29
Italy	2 450	1 800	1 500	900	- 27	- 39	- 63	- 40	- 50	- 70
Luxembourg	3	1,8	1,5	1,5	- 40	- 50	- 60	- 40	- 50	- 50
Netherlands	299	180	120	90	- 40	- 60	- 70	- 40	- 60	- 70
Portugal	115	232	270	206	+ 102	+ 135	+ 79	- 25	- 13	- 34
United Kingdom	3 883	3 106	2 330	1 553	- 20	- 40	- 60	- 20	- 40	- 60
Austria	90	54	36	27	- 40	- 60	- 70	- 40	- 60	- 70
Finland	171	102	68	51	- 40	- 60	- 70	- 40	- 60	- 70
Sweden	112	67	45	34	- 40	- 60	- 70	- 40	- 60	- 70

(1) Additional emissions may arise from capacity authorised on or after 1 July 1987.

(2) Emissions coming from combustion plants authorised before 1 July 1987 but not yet in operation before that date and which have not been taken into account in establishing the emission ceilings fixed by this Annex shall either comply with the requirements established by this Directive for new plants or be accounted for in the overall emissions from existing plants that must not exceed the ceilings fixed in this Annex.

ANNEX II

CEILINGS AND REDUCTION TARGETS FOR EMISSIONS OF NO_x FROM EXISTING PLANTS (1) (2)

Member State	0	1	2	3	4	5	6
	NO_x emissions (as NO_2) by large combustion plants 1980 ktonnes	NO_x emission ceilings (ktonnes/year)		% reduction over 1980 emissions		% reduction over adjusted 1980 emissions	
		Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2
		1993 (1)	1998	1993 (1)	1998	1993 (1)	1998
Belgium	110	88	66	- 20	- 40	- 20	- 40
Denmark	124	121	81	- 3	- 35	- 10	- 40
Germany	870	696	522	- 20	- 40	- 20	- 40
Greece	36	70	70	+ 94	+ 94	0	0
Spain	366	368	277	+ 1	- 24	- 20	- 40
France	400	320	240	- 20	- 40	- 20	- 40
Ireland	28	50	50	+ 79	+ 79	0	0
Italy	580	570	428	- 2	- 26	- 20	- 40
Luxembourg	3	2.4	1.8	- 20	- 40	- 20	- 40
Netherlands	122	98	73	- 20	- 40	- 20	- 40
Portugal	23	59	64	+ 157	+ 178	- 8	0
United Kingdom	1 016	864	711	- 15	- 30	- 15	- 30
Austria	19	15	11	- 20	- 40	- 20	- 40
Finland	81	65	48	- 20	- 40	- 20	- 40
Sweden	31	25	19	- 20	- 40	- 20	- 40

(1) Member States may for technical reasons delay for up to two years the phase 1 date for reduction in NO_x emissions by notifying the Commission within one month of the notification of this Directive.

(1) Additional emissions may arise from capacity authorised on or after 1 July 1987.

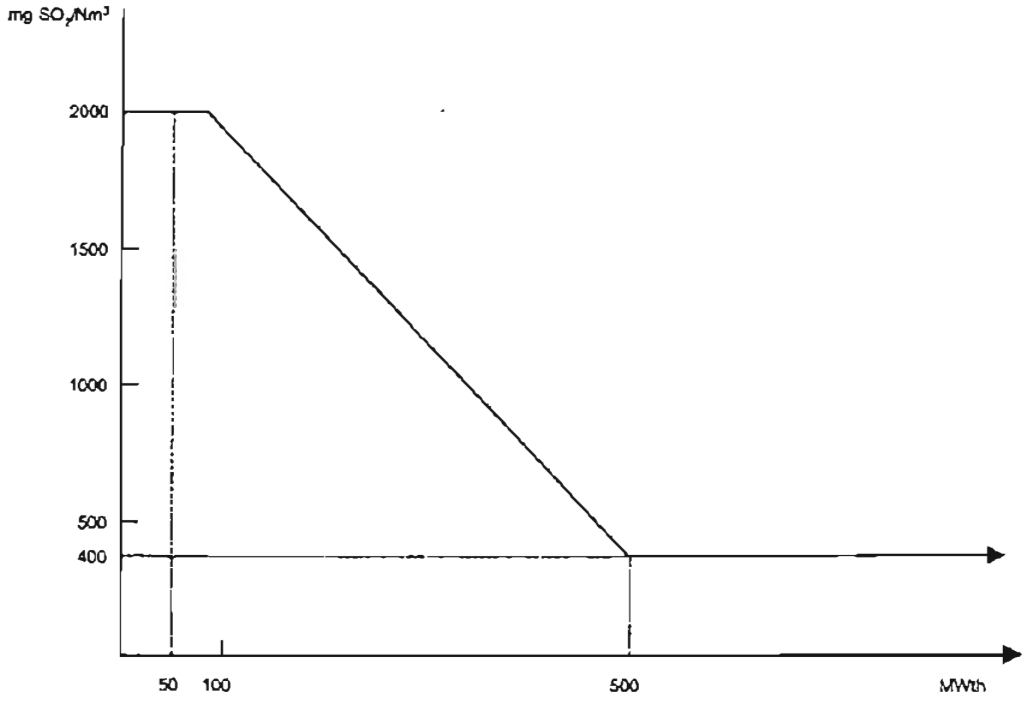
(2) Emissions coming from combustion plants authorised before 1 July 1987 but not yet in operation before that date and which have not been taken into account in establishing the emission ceilings fixed by this Annex shall either comply with the requirements established by this Directive for new plants or be accounted for in the overall emissions from existing plants that must not exceed the ceilings fixed in this Annex.

ANNEX III

EMISSION LIMIT VALUES FOR SO_2

Solid fuel

A. SO_2 emission limit values expressed in mg/Nm³ (O_2 content 6 %) to be applied by new and existing plants pursuant to Article 4(1) and 4(3) respectively:



NB. Where the emission limit values above cannot be met due to the characteristics of the fuel, a rate of desulphurisation of at least 60 % shall be achieved in the case of plants with a rated thermal input of less than or equal to 100 MWth, 75 % for plants greater than 100 MWth and less than or equal to 300 MWth and 90 % for plants greater than 300 MWth. For plants greater than 500 MWth, a desulphurisation rate of at least 94 % shall apply or of at least 92 % where a contract for the fitting of flue gas desulphurisation or lime injection equipment has been entered into, and work on its installation has commenced, before 1 January 2001.

B. SO_2 emission limit values expressed in mg/Nm³ (O_2 content 6 %) to be applied by new plants pursuant to Article 4(2) with the exception of gas turbines.

Type of fuel	50 to 100 MWth	100 to 300 MWth	> 300 MWth
Biomass	200	200	200
General case	850	200 (1)	200

(1) Except in the case of the 'Outermost Regions' where 850 to 200 mg/Nm³ (linear decrease) shall apply.

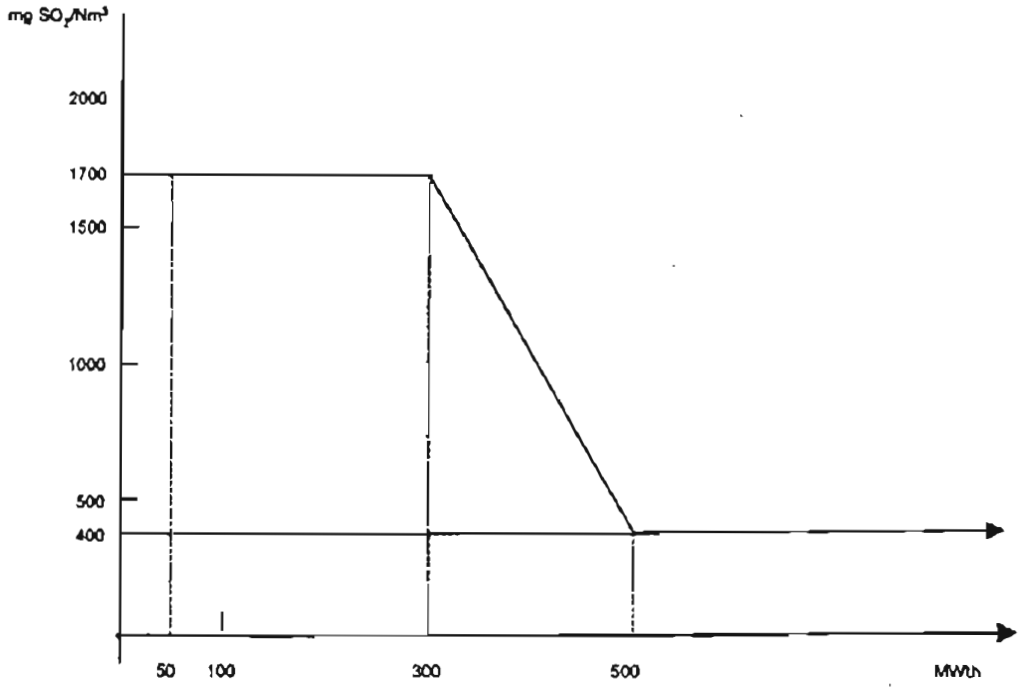
NB. Where the emission limit values above cannot be met due to the characteristics of the fuel, installations shall achieve 300 mg/Nm³ SO_2, or a rate of desulphurisation of at least 92 % shall be achieved in the case of plants with a rated thermal input of less than or equal to 300 MWth and in the case of plants with a rated thermal input greater than 300 MWth a rate of desulphurisation of at least 95 % together with a maximum permissible emission limit value of 400 mg/Nm³ shall apply.

ANNEX IV

EMISSION LIMIT VALUES FOR SO_2

Liquid fuels

A. SO_2 emission limit values expressed in mg/Nm³ (O_2 content 3 %) to be applied by new and existing plants pursuant to Article 4(1) and 4(3), respectively:



B. SO_2 emission limit values expressed in mg/Nm³ (O_2 content 3 %) to be applied by new plants pursuant to Article 4(2) with the exception of gas turbines

50 to 100 MWth	100 to 300 MWth	> 300 MWth
850	400 to 200 (linear decrease) (1)	200

(1) Except in the case of the 'Outermost Regions' where 850 to 200 mg/Nm³ (linear decrease) shall apply.

In the case of two installations with a rated thermal input of 250 MWth on Crete and Rhodos to be licensed before 31 December 2007 the emission limit value of 1 700 mg/Nm³ shall apply.

ANNEX V

EMISSION LIMIT VALUES FOR SO_2

Gaseous fuels

A. SO_2 emission limit values expressed in mg/Nm^3 (O_2 content 3 %) to be applied by new and existing plants pursuant to Article 4(1) and 4(3), respectively:

Type of fuel	Limit values (mg/Nm^3)
Gaseous fuels in general	35
Liquefied gas	5
Low calorific gases from gasification of refinery residues, coke oven gas, blast-furnace gas	800
Gas from gasification of coal	(1)

(1) The Council will fix the emission limit values applicable to such gas at a later stage on the basis of proposals from the Commission to be made in the light of further technical experience.

B. SO_2 emission limit values expressed in mg/Nm^3 (O_2 content 3 %) to be applied by new plants pursuant to Article 4(2):

Gaseous fuels in general	35
Liquefied gas	5
Low calorific gases from coke oven	400
Low caloric gases from blast furnace	200

ANNEX VI

EMISSION LIMIT VALUES FOR NO_x (MEASURED AS NO_2)

A. NO_x emission limit values expressed in mg/Nm^3 (O_2 content 6 % for solid fuels, 3 % for liquid and gaseous fuels) to be applied by new and existing plants pursuant to Article 4(1) and 4(3), respectively:

Type of fuel:	Limit values (1) (mg/Nm^3)
Solid (2), (3):	
50 to 500 MWth:	600
>500 MWth:	500
From 1 January 2016	
50 to 500 MWth:	600
>500 MWth:	200
Liquid:	
50 to 500 MWth:	450
>500 MWth:	400
Gaseous:	
50 to 500 MWth:	300
>500 MWth:	200

(1) Except in the case of the 'Outermost Regions' where the following values shall apply:
Solid in general: 650
Solid with < 10 % vol comps: 1 300
Liquid: 450
Gaseous: 350

(2) Until 31 December 2015 plants of a rated thermal input greater than 500 MW, which from 2008 onwards do not operate more than 2 000 hours a year (rolling average over a period of five years), shall:
— in the case of plant licensed in accordance with Article 4(3)(a), be subject to a limit value for nitrogen oxide emissions (measured as NO_2) of 600 mg/Nm^3;
— in the case of plant subject to a national plan under Article 4(6), have their contribution to the national plan assessed on the basis of a limit value of 600 mg/Nm^3.
From 1 January 2016 such plants, which do not operate more than 1 500 hours a year (rolling average over a period of five years), shall be subject to a limit value for nitrogen oxide emissions (measured as NO_2) of 450 mg/Nm^3.

(3) Until 1 January 2018 in the case of plants that in the 12 month period ending on 1 January 2001 operated on, and continue to operate on, solid fuels whose volatile content is less than 10 %, 1 200 mg/Nm^3 shall apply.

B. NO_x emission limit values expressed in mg/Nm^3 to be applied by new plants pursuant to Article 4(2) with the exception of gas turbines

Solid fuels (O_2 content 6 %)

Type of fuel	50 to 100 MWth	100 to 300 MWth	> 300 MWth
Biomass	400	300	200
General case	400	200 (1)	200

(1) Except in the case of the 'Outermost Regions' where 300 mg/Nm^3 shall apply.

Liquid fuels (O_2 content 3 %)

50 to 100 MWth	100 to 300 MWth	> 300 MWth
400	200 (1)	200

(1) Except in the case of the 'Outermost Regions' where 300 mg/Nm^3 shall apply.

In the case of two installations with a rated thermal input of 250 MWth on Crete and Rhodos to be licensed before 31 December 2007 the emission limit value of 400 mg/Nm^3 shall apply.

Gaseous fuels (O_2 content 3 %)

	50 to 300 MWth	> 300 MWth
Natural gas (note 1)	150	100
Other gases	200	200

Gas Turbines

NO_x emission limit values expressed in mg/Nm^3 (O_2 content 15 %) to be applied by a single gas turbine unit pursuant to Article 4(2) (the limit values apply only above 70 % load):

	> 50 MWth (thermal input at ISO conditions)
Natural gas (Note 1)	50 (Note 2)
Liquid fuels (Note 3)	120
Gaseous fuels (other than natural gas)	120

Gas turbines for emergency use that operate less than 500 hours per year are excluded from these limit values. The operator of such plants is required to submit each year to the competent authority a record of such used time.

Note 1: Natural gas is naturally occurring methane with not more than 20 % (by volume) of inerts and other constituents.

Note 2: 75 mg/Nm^3 in the following cases, where the efficiency of the gas turbine is determined at ISO base load conditions:
- gas turbines, used in combined heat and power systems having an overall efficiency greater than 75 %;
- gas turbines used in combined cycle plants having an annual average overall electrical efficiency greater than 55 %;
- gas turbines for mechanical drives.

For single cycle gas turbines not falling into any of the above categories, but having an efficiency greater than 35 % - determined at ISO base load conditions - the emission limit value shall be $50*\eta/35$ where η is the gas turbine efficiency expressed as a percentage (and at ISO base load conditions).

Note 3: This emission limit value only applies to gas turbines firing light and middle distillates.

ANNEX VII

EMISSION LIMIT VALUES FOR DUST

A. Dust emission limit values expressed in mg/Nm³ (O_2 content 6 % for solid fuels, 3 % for liquid and gaseous fuels) to be applied by new and existing plants pursuant to Article 4(1) and 4(3), respectively:

Type of fuel	Rated thermal input (MW)	Emission limit values (mg/Nm³)
Solid	≥ 500 < 500	50 (²) 100
Liquid (¹)	all plants	50
Gaseous	all plants	5 as a rule 10 for blast furnace gas 50 for gases produced by the steel industry which can be used elsewhere

(¹) A limit value of 100 mg/Nm³ may be applied to plants with a rated thermal input of less than 500 MWth burning liquid fuel with an ash content of more than 0,06 %.

(²) A limit value of 100 mg/Nm³ may be applied to plants licensed pursuant to Article 4(3) with a rated thermal input greater than or equal to 500 MWth burning solid fuel with a heat content of less than 5 800 kJ/kg (net calorific value), a moisture content greater than 45 % by weight, a combined moisture and ash content greater than 60 % by weight and a calcium oxide content greater than 10 %.

B. Dust emission limit values expressed in mg/Nm³ to be applied by new plants, pursuant to Article 4(2) with the exception of gas turbines:

Solid fuels (O_2 content 6 %)

50 to 100 MWth	> 100 MWth
50	30

Liquid fuels (O_2 content 3 %)

50 to 100 MWth	> 100 MWth
50	30

In the case of two installations with a rated thermal input of 250 MWth on Crete and Rhodos to be licensed before 31 December 2007 the emission limit value of 50 mg/Nm³ shall apply.

Gaseous fuels (O_2 content 3 %)

As a rule	5
For blast furnace gas	10
For gases produced by the steel industry which can be used elsewhere	30

ANNEX VIII

METHODS OF MEASUREMENT OF EMISSIONS

A. **Procedures for measuring and evaluating emissions from combustion plants.**

1. *Until 27 November 2004*

Concentrations of SO_2, dust, NO_x shall be measured continuously in the case of new plants for which a licence is granted pursuant to Article 4(1) with a rated thermal input of more than 300 MW. However, monitoring of SO_2 and dust may be confined to discontinuous measurements or other appropriate determination procedures in cases where such measurements or procedures, which must be verified and approved by the competent authorities, may be used to obtain concentration.

In the case of new plants for which a licence is granted pursuant to Article 4(1) not covered by the first subparagraph, the competent authorities may require continuous measurements of those three pollutants to be carried out where considered necessary. Where continuous measurements are not required, discontinuous measurements or appropriate determination procedures as approved by the competent authorities shall be used regularly to evaluate the quantity of the above-mentioned substances present in the emissions.

2. *From 27 November 2002 and without prejudice to Article 18(2)*

Competent authorities shall require continuous measurements of concentrations of SO_2, NO_x, and dust from waste gases from each combustion plant with a rated thermal input of 100 MW or more.

By way of derogation from the first subparagraph, continuous measurements may not be required in the following cases:

— for combustion plants with a life span of less than 10 000 operational hours;

— for SO_2 and dust from natural gas burning boilers or from gas turbines firing natural gas;

— for SO_2 from gas turbines or boilers firing oil with known sulphur content in cases where there is no desulphurisation equipment;

— for SO_2 from biomass firing boilers if the operator can prove that the SO_2 emissions can under no circumstances be higher than the prescribed emission limit values.

Where continuous measurements are not required, discontinuous measurements shall be required at least every six months. As an alternative, appropriate determination procedures, which must be verified and approved by the competent authorities, may be used to evaluate the quantity of the above mentioned pollutants present in the emissions. Such procedures shall use relevant CEN standards as soon as they are available. If CEN standards are not available ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall apply.

3. In the case of plants which must comply with the desulphurisation rates fixed by Article 5(2) and and Annex III, the requirements concerning SO_2 emission measurements established under paragraph 2 of this point shall apply. Moreover, the sulphur content of the fuel which is introduced into the combustion plant facilities must be regularly monitored.

4. The competent authorities shall be informed of substantial changes in the type of fuel used or in the mode of operation of the plant. They shall decide whether the monitoring requirements laid down in paragraph 2 are still adequate or require adaptation.

5. The continuous measurements carried out in compliance with paragraph 2 shall include the relevant process operation parameters of oxygen content, temperature, pressure and water vapour content. The continuous measurement of the water vapour content of the exhaust gases shall not be necessary, provided that the sampled exhaust gas is dried before the emissions are analysed.

Representative measurements, i.e. sampling and analysis, of relevant pollutants and process parameters as well as reference measurement methods to calibrate automated measurement systems shall be carried out in accordance with CEN standards as soon as they are available. If CEN standards are not available ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall apply.

Continuous measuring systems shall be subject to control by means of parallel measurements with the reference methods at least every year.

6. The values of the 95 % confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

Sulphur dioxide	20 %
Nitrogen oxides	20 %
Dust	30 %

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 above.

Any day in which more than three hourly average values are invalid due to malfunction or maintenance of the continuous measurement system shall be invalidated. If more than ten days over a year are invalidated for such situations the competent authority shall require the operator to take adequate measures to improve the reliability of the continuous monitoring system.

B. Determination of total annual emissions of combustion plants

Until and including 2003 the competent authorities shall obtain determination of the total annual emissions of SO_2 and NO_x from new combustion plants. When continuous monitoring is used, the operator of the combustion plant shall add up separately for each pollutant the mass of pollutant emitted each day, on the basis of the volumetric flow rates of waste gases. Where continuous monitoring is not in use, estimates of the total annual emissions shall be determined by the operator on the basis of paragraph A.1 to the satisfaction of the competent authorities.

Member States shall communicate to the Commission the total annual SO_2 and NO_x emissions of new combustion plants at the same time as the communication required under paragraph C.3 concerning the total annual emissions of existing plants.

Member States shall establish, starting in 2004 and for each subsequent year, an inventory of SO_2, NO_x and dust emissions from all combustion plants with a rated thermal input of 50 MW or more. The competent authority shall obtain for each plant operated under the control of one operator at a given location the following data:

— the total annual emissions of SO_2, NO_x and dust (as total suspended particles),

— the total annual amount of energy input, related to the net calorific value, broken down in terms of the five categories of fuel: biomass, other solid fuels, liquid fuels, natural gas, other gases.

A summary of the results of this inventory that shows the emissions from refineries separately shall be communicated to the Commission every three years within twelve months from the end of the three-year period considered . The yearly plant-by-plant data shall be made available to the Commission upon request. The Commission shall make available to the Member States a summary of the comparison and evaluation of the national inventories within twelve months of receipt of the national inventories.

Commencing on 1 January 2008 Member States shall report annually to the Commission on those existing plants declared for eligibility under Article 4(4) along with the record of the used and unused time allowed for the plants' remaining operational life.

C. Determination of the total annual emissions of existing plants until and including 2003.

1. Member States shall establish, starting in 1990 and for each subsequent year until and including 2003, a complete emission inventory for existing plants covering SO_2 and NO_x:

   — on a plant by plant basis for plants above 300 MWth and for refineries;

   — on an overall basis for other combustion plants to which this Directive applies.

2. The methodology used for these inventories shall be consistent with that used to determine SO_2 and NO_x emissions from combustion plants in 1980.

3. The results of this inventory shall be communicated to the Commission in a conveniently aggregated form within nine months from the end of the year considered. The methodology used for establishing such emission inventories and the detailed base information shall be made available to the Commission at its request.

4. The Commission shall organise a systematic comparison of such national inventories and, if appropriate, shall submit proposals to the Council aiming at harmonising emission inventory methodologies, for the needs of an effective implementation of this Directive.

ANNEX IX

TIME-LIMITS FOR TRANSPOSITION AND IMPLEMENTATION OF THE REPEALED DIRECTIVE

(referred to in Article 17(1))

Directive	Time-limits for transposition	Time-limits for application
88/609/EEC (OJ L 336, 7.12.1988, p. 1)	30 June 1990	1 July 1990 31 December 1990 31 December 1993 31 December 1998 31 December 2003
94/66/EC (OJ L 337, 24.12.1994, p. 83)	24 June 1995	

ANNEX X

CORRELATION TABLE

(Referred to in Article 17(3))

This Directive	Directive 88/609/EEC
Article 1	Article 1
Article 2	Article 2
Article 3	Article 3
Article 4(1)	Article 4(1)
Article 4(2), (3) and (4)	
Article 4(5)	Article 4(3)
Article 4(6), (7) and (8)	
Article 5	Article 5
	Article 6
Article 6	
Article 7	Article 8
Article 8	Article 9
Article 9	Article 10
Article 10	Article 11
Article 11	Article 12
Article 12	Article 13(1)
Article 13	Article 14
Article 14	Article 15
Article 15(1), (2) and (3)	Article 16(1), (2) and (4)
Article 16	
Article 17	
Article 18(1), first subparagraph, and (3)	Article 17(1) and (2)
Article 18(1), second subparagraph, and (2) and Article 19	
Article 20	Article 18
Annexes I to VIII	Annexes I to IX
Annex IX and X	—

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