

COUNCIL OF THE EUROPEAN UNION

Brussels, 22 April 2009

Interinstitutional File: 2007/0286 (COD)

5381/3/09 REV 3

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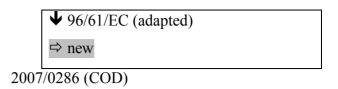
REVISED NOTE

from:	General Secretariat
to:	Delegations
No Cion prop:	5088/08 ENV 3 CODEC 7 - COM(2007) 844 final
Subject:	Proposal for a directive of the European Parliament and of the Council on
	industrial emissions (integrated pollution prevention and control) (Recast)

The Annex to this note incorporates Presidency suggestions for modifications to the Commission's proposal for the above-mentioned directive. It also incorporates corrections reflecting the opinion of the Consultative Working Group (doc. 10570/08) and other editorial corrections.

The document is in the recast format, new text is indicated by <u>added text</u> and deletions by

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Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

⇒on industrial emissions ← concerning (integrated pollution prevention and control)

(Text with EEA relevance)

⇒ THE EUROPEAN PARLIAMENT AND ⇔ THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article $\frac{130s}{175} \times 175 \times (1)$ thereof,

Having regard to the proposal from the Commission¹,

Having regard to the opinion of the ⊠ European ⊠ Economic and Social Committee²,

Having regard to the opinion of the Committee of the Regions³,

Acting in accordance with the procedure laid down in Article $\frac{189e}{}$ \boxtimes 251 \boxtimes of the Treaty⁴,

Whereas:

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¹ OJ C [...], [...], p. [...].

² OJ C [...], [...], p. [...].

³ OJ C [...], [...], p. [...].

⁴ OJ C [...], [...], p. [...].



February 1978 on waste from the titanium dioxide industry¹, Council Directive 82/883/EEC of 3 December 1982 on procedures for the surveillance and monitoring of environments concerned by waste from the titanium dioxide industry², Council Directive 92/112/EEC of 15 December 1992 on procedures for harmonizing the programmes for the reduction and eventual elimination of pollution caused by waste from the titanium dioxide industry³, Council Directive 2008/1/EC of 15 January 2008 concerning integrated pollution prevention and control⁴, Council Directive 1999/13/EC of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations⁵, Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste⁶ and Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants⁷. In the interests of clarity, these Directives should be recast.

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OJ L 332, 28.12.2000, p. 91.

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OJ L 54, 25.2.1978, p. 19. Directive as last amended by Directive 91/692/EEC (OJ L 377, 31.12.1991, p. 48).

OJ L 378, 31.12.1982, p. 1. Directive as last amended by Regulation (EC) No 807/2003 (OJ L 122, 16.5.2003, p. 36).

³ OJ L 409, 31.12.1992, p. 11.

 $[\]circ$ [...] \subset OJ L 24, 29.01.2008, p. 8 \subset .

OJ L 85, 29.3.1999, p. 1. Directive as last amended by Directive 2004/42/EC (OJ L 143, 30.4.2004, p. 87).

OJ L 309, 27.11.2001, p. 1. Directive as last amended by Directive 2006/105/EC (OJ L 363, 20.12.2006, p. 368).

- (2) In order to prevent, reduce and as far as possible eliminate pollution arising from industrial activities in compliance with the 'polluter pays' principle and the principle of pollution prevention, it is necessary to establish a general framework for the control of the main industrial activities giving priority to intervention at source and ensuring prudent management of natural resources.
- (3) Different approaches to controlling emissions into the air, water or soil separately may encourage the shifting of pollution between the various environmental media rather than protecting the environment as a whole. It is therefore appropriate to provide an integrated approach to prevention and control of emissions into air, water or soil, to waste management, to efficient use of energy and to prevention of accidents.
- (4) It is appropriate to revise the legislation related to industrial installations in order to simplify and clarify the existing provisions, reduce unnecessary administrative burdens and implement the conclusions of the Commission Communications on the Thematic Strategy for Air Pollution¹, the Thematic Strategy for Soil Protection² and the Thematic Strategy for the Prevention and Recycling of Waste³ adopted as a follow-up of Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme⁴. Those Thematic Strategies set objectives to protect human health and the environment which cannot be met without further reductions of emissions arising from industrial activities.

⁴ OJ L 242, 10.9.2002, p. 1.

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COM(2005) 446 final of 21.9.2005.

² COM(2006) 231 final of 22.9.2006.

³ COM(2005) 666 final of 21.15.2005.

- (5) In order to guarantee the prevention and control of pollution, each installation should operate only if it holds a permit or in the case of certain installations and activities using organic solvents, only if it holds a permit or if it is registered.
- (6) In order to facilitate granting of permits, Member States should be able to set requirements for certain categories of installations in general binding rules.
- In order to avoid double regulation, the permit of an installation covered by Directive 2003/87 of the European Parliament and of the Council of 13 October 2003 cestablishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC¹ should not include an emission limit value for ogreenhouse gas cemissions of except where it is necessary to ensure that no significant local pollution is caused or where an installations is temporarily excluded from that scheme.

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OJ L 275, 25.10.2003, p. 32. Directive as amended by Directive 2004/101/EC (OJ L 338, 13.11.2004, p.18)

- Operators should submit an application for a permit to the competent authority which contains the information that is necessary for setting the permit conditions. Operators should be able to use information resulting from the application of Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of public and private projects on the environment¹ and of Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances² when submitting an application for a permit.
- (9) The permit should include all the necessary measures to achieve a high level of protection for the environment as a whole and should also include emission limit values for polluting substances, appropriate requirements to protect the soil and groundwater as well as monitoring requirements. The conditions of the permit should be set on the basis of best available techniques.
- In order to determine what is considered best available techniques and to limit the imbalances in the Community as regards the level of emissions of industrial activities, the Commission should adopt the reference documents for the best available techniques, hereinafter "BAT reference documents" as a result of an exchange of information with stakeholders. Those BAT reference documents should be the reference for setting permit conditions. They can be supplemented by other sources.

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OJ L 175, 5.7.1985, p. 40. Directive as last amended by Directive 2003/35/EC (OJ L 156, 25.6.2003, p. 17).

OJ L 10, 14.1.1997, p. 13. Directive as last amended by Directive 2003/105/EC (OJ L 345, 31.12.2003, p. 97).

- In order to take into account certain specific circumstances, competent authorities should be able to grant derogations to allow emission limit values to exceed the emission levels associated with the best available techniques as described in the BAT reference documents. Such derogations should be based on well defined criteria and should not exceed emission limit values set out in this Directive.
- (12) In order to enable operators to test emerging techniques which could provide for a higher level of environmental protection, the competent authority should also be able to grant temporary derogations from emission levels associated with the best available techniques as described in the BAT reference documents.
- (13) Changes to an installation may give rise to higher levels of pollution. The competent authority should therefore be notified of any planned change which might affect the environment. Substantial changes to installations which may have significant negative effects on humans or the environment should be subject to the reconsideration of a permit to ensure that the installations concerned continue to meet the requirements of this Directive.
- (14) The spreading of manure contributes significantly to emissions of pollutants into the air and water. With a view to meeting the objectives set out in the Thematic Strategy on Air Pollution and legislation on water protection, it is necessary for the Commission to review the need to establish the most suitable controls of these emissions through the application of best available techniques.

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- In order to take account of developments in the best available techniques or other changes regarding the changes to an installation, permit conditions should be reconsidered regularly and, where necessary, updated, in particular where the Commission adopts a new or updated BAT reference document.
- (16) It is necessary to ensure that the operation of an installation does not lead to a deterioration of the quality of soil and groundwater. Permit conditions should therefore include the monitoring of soil and groundwater and the operator should remediate the site upon definitive cessation of activities.
- (17) In order to ensure an effective implementation and enforcement of this Directive, operators should regularly report on compliance with permit conditions to the competent authority. Member States should ensure that the operator and the competent authority take necessary measures in a case of non-compliance with this Directive and provide for a system of environmental inspections.
- Effective public participation in decision-making is necessary to enable the public to express, and the decision-maker to take account of, opinions and concerns which may be relevant to those decisions, thereby increasing the accountability and transparency of the decision-making process and contributing to public awareness of environmental issues and support for the decisions taken. Members of the public concerned should have access to justice in order to contribute to the protection of the right to live in an environment which is adequate for personal health and well-being.

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- (19) Large combustion plants contribute greatly to emissions of polluting substances into the air resulting in a significant impact on human health and the environment. In order to reduce that impact and to work towards meeting the requirements of Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants¹ and the objectives set in the Commission Communication on the Thematic Strategy for Air Pollution, it is necessary to set more stringent emission limit values at Community level for certain categories of combustion plants and pollutants.
- (20) In case of a sudden interruption in the supply of low-sulphur fuel or gas resulting from a serious shortage, the competent authority should be able to grant temporary derogations to allow emissions of the combustion plants concerned to exceed the emission limit values set out in this Directive.
- The operator concerned should not operate a combustion plant for more than 24 hours after malfunctioning or breakdown of abatement equipment and unabated operation should not exceed 120 hours in a twelve month period in order to limit the negative effects of pollution on the environment. However, where there is an overriding need of energy supplies or it is necessary to avoid an overall increase of emissions by operation of another combustion plant, competent authorities should be able to grant a derogation from these time limits.

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OJ L 309, 27.11.2001, p. 22. Directive as last amended by Council Directive 2006/105/EC (OJ L 363, 20.12.2006, p. 368).

- (22) In order to ensure a high level of environmental and human health protection and to avoid transboundary movements of waste to plants operating at lower environmental standards, it is necessary to maintain and set stringent operational conditions, technical requirements and emission limit values for plants incinerating or co-incinerating waste within the Community.
- The use of organic solvents in certain activities and installations gives rise to emissions of organic compounds into the air which contribute to the local and transboundary formation of photochemical oxidants which causes damage to natural resources and has harmful effects on human health. It is therefore necessary to take preventive action against the use of organic solvents and establish the requirement to comply with emission limit values for organic compounds and appropriate operating conditions. It should be possible to grant derogations from compliance with the emission limit values to operators where other measures, such as the use of low-solvent or solvent-free products or techniques, provide alternative means of achieving equivalent emission limits.
- (24) Installations producing titanium dioxide can give rise to significant pollution into air and water. In order to reduce these impacts, it is necessary to set at Community level more stringent emission limit values for certain polluting substances.
- 2 (24a) In order to simplify reporting and reduce unnecessary administrative burdens, the

 Commission should identify methods to streamline the way in which data are made

 available pursuant to this Directive with the other requirements of Community legislation,
 and in particular Regulation (EC) No 166/2006 of 18 January 2006 concerning the

 establishment of a European Pollutant Release and Transfer Register.

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- (25) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission¹.
- (26)In particular, power should be conferred on the Commission to establish criteria for the granting of derogations from the emission levels associated with the best available techniques as described in the BAT reference documents and for the determining of the frequency of periodic monitoring and of the content of the baseline report, as well as the criteria to be used for the appraisal of environmental risks. Power should also be conferred on the Commission to adopt measures concerning the development and application of emerging techniques, to set in certain cases an average emission limit value for sulphur dioxide, to set the date from which continuous measurements of the emissions to air of heavy metals, dioxins and furans shall be carried out, to establish the type and format of the information to be made available by the Member States to the Commission on the implementation of this Directive and to adapt Annexes V to VIII to scientific and technical progress. In the case of waste incineration plants and waste co-incineration plants, this may include the establishment of criteria to allow derogations from continuous monitoring of total dust emissions. Since those measures are of general scope and are designed to amend non-essential elements of this Directive, or to supplement this Directive by the addition of new non-essential elements, they must be adopted in accordance with the regulatory procedure with scrutiny provided for in Article 5a of Decision 1999/468/EC.
- (27) Member States should lay down rules on penalties applicable to infringements of the provisions of this Directive and ensure that they are implemented. Those penalties should be effective, proportionate and dissuasive.

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OJ L 184, 17.7.1999, p. 23. Decision as amended by Decision 2006/512/EC (OJ L 200, 22.7.2006, p. 11).

- In order to provide existing installations sufficient time to technically adapt to the new requirements of this Directive, some of the new requirements should apply to those installations after a fixed period from the date of application of this Directive. Combustion plants need sufficient time to install the necessary abatement measures to meet the emission limit values set out Annex V.
- Since the objectives of the action to be taken to ensure a high level of environmental protection and the improvement of environmental quality cannot be sufficiently achieved by the Member States and can therefore, by reason of the transboundary nature of pollution from industrial activities, be better achieved at Community level, the Community may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve those objectives.
- (30) This Directive respects the fundamental rights and observes the principles recognised in particular by the Charter of Fundamental Rights of the European Union. In particular, this Directive seeks to promote the application of Article 37 of the Charter of Fundamental Rights of the European Union.
- (31) The obligation to transpose this Directive into national law should be confined to those provisions which represent a substantive change as compared with the earlier Directives.

 The obligation to transpose the provisions which are unchanged arises under the earlier Directives.

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- (32) In accordance with paragraph 34 of the Interinstitutional agreement on better law making, Member States are encouraged to draw up, for themselves and in the interests of the Community, their own tables, which will as far as possible, illustrate the correlation between this Directive and the transposition measures and to make those tables public.
- (33) This Directive should be without prejudice to the obligations of the Member States relating to the time-limits for transposition into national law and application of the Directives set out in Annex IX, Part B.
- (34) In order to ensure an effective and active exchange of information resulting in high quality BAT reference documents, the Commission should establish a forum that functions in a transparent manner. Practical arrangements for the exchange of information should be laid down, in particular to ensure that Member States and stakeholders provide data of sufficient quality and quantity based on established guidance to enable the determination of best available techniques and emerging techniques.

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▶ 96/61/EC (adapted)

HAVE ADOPTED THIS DIRECTIVE:

CHAPTER I

☒ Common provisions **☒**

Article 1

Purpose and scope Subject matter ✓

The purpose of \underline{tT} his Directive is to achieve \boxtimes lays down rules on \boxtimes integrated prevention and control of pollution arising from the \boxtimes industrial \boxtimes activities listed in Annex I.

It \boxtimes also \boxtimes lays down measures \boxtimes rules \boxtimes designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land from the abovementioned activities, including measures concerning \boxtimes and to prevent generation of \boxtimes waste, in order to achieve a high level of protection of the environment taken as a whole, without prejudice to Directive 85/337/EEC and other relevant Community provisions.

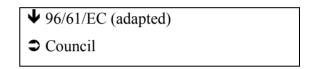
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Article 2

Scope

- 1. This Directive shall apply to industrial activities giving rise to pollution referred to in Chapters II to VI.
- 2. This Directive shall not apply to research activities, development activities or the testing of new products and processes.



Article 23

Definitions

For the purposes of this Directive \boxtimes the following definitions shall apply \boxtimes :

- (1)\(\frac{1}{2}\) 'substance' \(\frac{shall}{n}\) mean\(\frac{s}{2}\) any chemical element and its compounds, with the exception of **⋈** the following substances: **⋈**
- (a) radioactive substances within the meaning of

 i as defined in

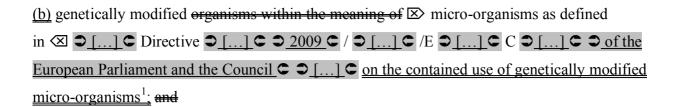
 Council Directive 80/836/Euratom 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation¹; and

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OJ L 159, 29.6.1996, p. 1.



 \boxtimes (c) genetically modified organisms as defined in \boxtimes Directive $\frac{90/220/\text{EEC}^2}{2001/18/\text{EC}}$ of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/200/EEC³;

(2)2 'pollution' shall means the direct or indirect introduction, as a result of human activity, of substances, vibrations, heat or noise into the air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment;

(3)3. 'installation' shall means a stationary technical unit where \boxtimes within which \boxtimes one or more activities listed in Annex I ⋈ or in Part 1 of Annex VII ⋈ are carried out, and any other directly associated activities \boxtimes on the same site \boxtimes which have a technical connection with the activities earried out on that site \otimes listed in those Annexes \otimes and which could have an effect on emissions and pollution;

4. 'existing installation' shall mean an installation in operation or, in accordance with legislation existing before the date on which this Directive is brought into effect, an installation authorized or in the view of the competent authority the subject of a full request for authorization, provided that that installation is put into operation no later than one year after the date on which this Directive is brought into effect:

3 OJ L 106, 17.4.2001, p. 1.

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² vironment of genetically modified organisms (OJ No L 117, 8, 5, 1990, p. as amended by Commission Directive 94/15/EC (OJ No I

(4)5. 'emission' shall means the direct or indirect release of substances, vibrations, heat or noise from individual or diffuse sources in the installation into the air, water or land;

(5)6: 'emission limit values' shall means the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during one or more periods of time. Emission limit values may also be laid down for certain groups, families or eategories of substances, in particular for those listed in Annex III. The emission limit values for substances shall normally apply at the point where the emissions leave the installation, any dilution being disregarded when determining them. With regard to indirect releases into water, the effect of a water treatment plant may be taken into account when determining the emission limit values of the installation involved, provided that an equivalent level is guaranteed for the protection of the environment as a whole and provided this does not lead to higher levels of pollution in the environment, without prejudice to Directive 76/464/EEC or the Directives implementing it;

(6)7. 'environmental quality standard' shall means the set of requirements which must be fulfilled at a given time by a given environment or particular part thereof, as set out in Community legislation;

8. 'competent authority` shall mean the authority or authorities or bodies responsible under the legal provisions of the Member States for carrying out the obligations arising from this Directive;

(7)9. 'permit' shall means that part or the whole of a written decision (or several such decisions) granting authorisation to operate all or part of an installation ⋈ or combustion plant, waste incineration plant or waste co-incineration plant ⋈ , subject to certain conditions which guarantee that the installation complies with the requirements of this Directive. A permit may cover one or more installations or parts of installations on the same site operated by the same operator;

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(8)10. (a) 'change in operation' shall mean a change in the nature or functioning, or an extension, of the installation which may have consequences for the environment:

(b) 'substantial change' $\frac{\text{shall}}{\text{shall}}$ means a change in $\frac{\text{operation}}{\text{operation}}$ \boxtimes the nature or functioning, or an extension, of an installation or combustion plant, waste incineration plant or waste co-incineration plant \boxtimes which, in the opinion of the competent authority, may have significant negative effects on human beings \boxtimes humans \boxtimes or the environment;

For the purposes of this definition, any change to or extension of an operation shall be deemed to be substantial if the change or extension in itself meets the thresholds, if any, set out in Annex I;

(9)11. 'best available techniques' shall means the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values \boxtimes and other permit conditions \boxtimes designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole:

- (a) 'techniques' <u>shall</u> includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned:
- (b) 'available' techniques shall means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator:

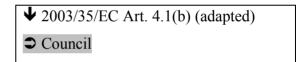
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- (c) 'best' <u>shall</u> means most effective in achieving a high general level of protection of the environment as a whole.
- (9a) 'emission levels associated with the best available techniques' means the range of emission levels obtained under normal operating conditions using a best available technique or a combination of best available techniques, as described in BAT reference documents, expressed as an average over a given period of time, under specified reference conditions.

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In determining the best available techniques, special consideration should be given to the items listed in Annex IV:

(10)12. 'operator' shall means any natural or legal person who operates or controls \bigcirc in whole or in part \bigcirc the installation \boxtimes or combustion plant, waste incineration plant or waste co-incineration plant \bigcirc or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the installation \boxtimes or plant \bigcirc has been delegated;



(11)13. 'the public' shall means one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups;

(12)±4. 'the public concerned' shall means the public affected or likely to be affected by, or having an interest in, the taking of a decision on the issuing or the updating of a permit or of permit conditions; for the purposes of this definition, non-governmental organisations promoting environmental protection and meeting any requirements under national law shall be deemed to have an interest of the purposes of this definition, non-governmental organisations promoting environmental protection and meeting any requirements under national law shall be deemed to have an interest of the purposes of this definition and meeting any requirements under national law shall be deemed to have an interest of the purpose of the purpose of this definition.

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(13) 'emerging technique' means a novel technique for an industrial activity that, if commercially developed, could provide ⊃<u>either</u> ⊂ a higher general level of protection of the environment or <u>at least the same level of protection of the environment and</u> ⊂ higher cost savings than existing best available techniques;

(14) ' \supset [...] \subset \supset hazardous \subset substances' means \supset [...] \subset substances or \supset [...] \subset \supset mixtures \subset \supset [...] \subset \supset within the meaning of Regulation (EC) No 1272/2008 of the European Parliament and of the Council \subset \supset [...] \subset ;

(15) 'baseline report' means quantified information on the state of soil and groundwater contamination by **⊃** [...] **⊂ ⊃** relevant hazardous **⊂** substances;

(15a) 'groundwater' means groundwater as defined in Article 2(2) of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy²;

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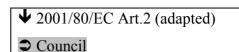
⇒ (16) 'environmental inspection' means all actions (including site visits, monitoring of emissions and checks of internal reports and follow-up documents, verification of self-monitoring, checking of the techniques used and adequacy of the environment management of the installation) undertaken by or on behalf of the competent authority to check and promote compliance of installations with their permit conditions and, where necessary, to monitor their environmental impact;

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¹ OJ L 353, 31,12,2008

OJ L 327, 22.12.2000, p. 1.



(18)6: 'fuel' means any solid, liquid or gaseous combustible material used to fire a combustion plant with the exception of waste covered by Council Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants[†], Council Directive 89/429/EEC of 21 June 1989 on the reduction of air pollution from existing municipal waste incineration plants², and Council Directive 94/67/EC of 16 December 1994 concerning the incineration of hazardous waste³ or any subsequent Community act repealing and replacing one or more of these Directives;

(19)(7) 'combustion plant' means any technical apparatus in which fuels are oxidised in order to use the heat thus generated;

○ (19a) 'stack' means a structure containing one or more flues providing conduit for waste gases in order to discharge them into the air

(19b) '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;

(19c) '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;

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OJ L 365, 31.12.1994, p. 34.

- (20)(11) 'biomass' means \boxtimes any of the following: \boxtimes
- <u>(a)</u> 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
- (b) the following waste used as a fuel:
 - (<u>ei</u>) vegetable waste from agriculture and forestry;
 - (bii) vegetable waste from the food processing industry, if the heat generated is recovered;
 - (<u>eiii</u>) 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;

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- (<u>div</u>) cork waste;
- (ev) 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 eonstruction and demolition waste and which includes, in particular, such wood waste originating from construction and demolition waste; ©

(21)8: 'multi-fuel firing unit \boxtimes combustion plant \boxtimes ' means any combustion plant which may be fired simultaneously or alternately by two or more types of fuel;

(22)12. '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;

(22a) '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;

(22b) 'diesel engine' means an internal combustion engine which operates according to the diesel cycle and uses compression ignition to burn fuel;

(22c) 'small isolated system' means a small isolated system as defined in Article 2(26) of Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC \supset 1 \subset ; \subset

> **◆** 2000/76/EC Art. 3 (adapted) Council

1(23) '«waste»' means any solid or liquid waste as defined in Article 3(a)1(a) of Directive 20 ⇒ 08 C/⇒ 98 C/EC of the European Parliament and of the Council ⇒ of 19 November 2008 C on waste² \bigcirc and repealing certain Directives \bigcirc 75/442/EEC;

2(24) '«hazardous waste»' means any solid or liquid ≥ hazardous ≥ waste as defined in Article 3(b) of Council Directive 20 \bigcirc 08 \bigcirc $\cancel{98}$ \bigcirc \cancel{EC} \bigcirc of the European Parliament and of the

OJ L 312, 22,11,2008, p.3

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¹ **⊃** OJ L 176, 15/07/2003 p. 0037 - 0056 **ℂ**

Council of 19 November 2008 on waste and repealing certain Directives © 91/689/EEC of 12 December 1991 on hazardous waste;

DG I

(25)3- 'mixed municipal waste' means waste from households as well as commercial, industrial and institutional waste which because of its nature and composition is similar to waste from households, but excluding fractions indicated in the Annex to Decision 94/3/EC under heading 20 01 of the Annex to Commission Decision 2000/532/EC of 3 May 2000 establishing the European Waste List¹ that isare collected separately at source and excluding the other wastes indicated under heading 20 02 of that Annex;

(26)4. \boxtimes 'waste \boxtimes incineration plant' means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of wastes, with or without recovery of the combustion heat generated \boxtimes , through \boxtimes This includes the incineration by oxidation of waste as well as other thermal treatment processes \bigcirc , such as pyrolysis, gasification or plasma process, \bigcirc such as pyrolysis, gasification or plasma process in so far as \boxtimes if \boxtimes the substances resulting from the treatment are subsequently incinerated;

(27)5. \boxtimes 'waste \boxtimes co-incineration plant' means any stationary or mobile plant \boxtimes technical unit \boxtimes whose main purpose is the generation of energy or production of material products and $\frac{1}{2}$ which uses wastes as a regular or additional fuel $\frac{1}{2}$ or in which waste is thermally treated for the purpose of disposal \boxtimes through the incineration by oxidation of waste as well as other thermal treatment processes if the substances resulting from the treatment are subsequently incinerated \bigcirc as a gaseous waste \bigcirc \boxtimes ;

(28) $\frac{2}{2}$ 'nominal capacity' means the sum of the incineration capacities of the furnaces of which an \boxtimes a waste \boxtimes incineration plant \boxtimes or a waste co-incineration plant \boxtimes is composed, as specified by the constructor and confirmed by the operator, with due account being taken, in particular, of the calorific value of the waste, expressed as the quantity of waste incinerated per hour;

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OJ L 226, 6.9.2000, p. 3.

(29)10. 'dioxins and furans' means all polychlorinated dibenzo-p-dioxins and dibenzo furans listed in Annex I Part 2 of Annex VI;

(30)13. 'residue' means any liquid or solid \boxtimes waste \boxtimes material (including bottom ash and slag, fly ash and boiler dust, solid reaction products from gas treatment, sewage sludge from the treatment of waste waters, spent catalysts and spent activated carbon) defined as waste in Article 1(a) of Directive 75/442/EEC, which is generated by the \boxtimes a waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration process, the exhaust gas or waste water treatment or other processes within the incineration or co-incineration plant;

↓ 1999/13/EC Art. 2 (adapted)

<u>16(31)</u> 'organic compound' <u>shall</u> means any compound containing at least the element carbon and one or more of hydrogen, halogens, oxygen, sulphur, phosphorus, silicon or nitrogen, with the exception of carbon oxides and inorganic carbonates and bicarbonates;

(32)17. 'volatile organic compound' (YOC) shall means any organic compound is as well as the fraction of creosote, is having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use. For the purpose of this Directive, the fraction of creosote which exceeds this value of vapour pressure at 293,15 K shall be considered as a VOC;

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- (33)18. 'organic solvent' shall means any $\forall \Theta C$ \boxtimes volatile organic compound \boxtimes which is used \boxtimes for any of the following: \boxtimes
- (a) alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials;
- (b) or is used as a cleaning agent to dissolve contaminants;
- (c) ef as a dissolver;
- (d) ef as a dispersion medium:
- (e) er as a viscosity adjuster:
- <u>(f)</u> or as a surface tension adjuster:
- (g) er a plasticiser:
- (h) or as a preservative;

(34)20. 'coating' shall means any preparation, including all the organic solvents or preparations containing organic solvents necessary for its proper application, which is used to provide a decorative, protective or other functional effect on a surface ⋈ coating as defined in Article 2(8) of Directive 2004/42/EC of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products ⋈;

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Article 5

Requirements for the granting of permits for existing installations

1. Member States shall take the necessary measures to ensure that the competent authorities see to it, by means of permits in accordance with Articles 6 and 8 or, as appropriate, by reconsidering and, where necessary, by updating the conditions, that existing installations operate in accordance with the requirements of Articles 3, 7, 9, 10, 13, the first and second indents of 14, and 15 (2) not later than eight years after the date on which this Directive is brought into effect, without prejudice to specific Community legislation.

2. Member States shall take the necessary measures to apply the provisions of Articles 1, 2, 11, 12, 14, third indent, 15 (1), (3) and (4), 16, 17 and 18 (2) to existing installations as from the date on which this Directive is brought into effect.

▶ 96/61/EC Art. 4 (adapted)

Article 4

Permits for new installations ☒ Obligation to hold a permit ☒

1. Member States shall take the necessary measures to ensure that no new installation ⊠ or combustion plant, waste incineration plant or waste co-incineration plant ≤ is operated without a permit issued in accordance with this Directive, without prejudice to the exceptions provided for in Council Directive 88/609/EEC of 24 November 1988 on the limitation of emissions of certain pollutants into the air from large combustion plants⁺.

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^{12. 1988,} p. 1. Directive as last amended by Directive 90/656/EEC (OJ No L 353, 17, 12, 1990, p. 59).

$oldsymbol{\Psi}$	1999/13/EC Art. 3	(adapted)

By way of derogation from the first subparagraph, Member States may set a procedure for the registration of installations covered only by Chapter V. ⟨∑|

▶ 1999/13/EC Art. 2 (adapted)

8. registration shall mean a \boxtimes The \boxtimes procedure $_{\underline{z}} \boxtimes$ for registration shall be \boxtimes specified in a \boxtimes binding \boxtimes legal act $_{\underline{z}}$ involving \boxtimes and include \boxtimes at least \boxtimes a \boxtimes notification to the competent authority by the operator of the intention to operate an installation or activity falling within the scope of this Directive;

♦ 96/61/EC Art. 2(9) (adapted) **○** Council

2. \bigcirc Member States may opt to provide that a \bigcirc \bigcirc \bigcirc permit \bigcirc \bigcirc cover \bigcirc s \bigcirc two \boxtimes one or more installations or parts of installations on the same site operated by the same operator \boxtimes on the same site \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc

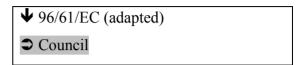
⊅ new⊃ Council

Where a permit covers two or more installations, \supseteq it shall contain conditions to ensure that \subseteq each installation \supseteq $[\ldots]$ \subseteq compl \supseteq ies \subseteq \supseteq $[\ldots]$ \subseteq with the requirements of this Directive.

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⇒ 3. Member States may opt to provide that a permit covers several parts of an installation operated by different operators. In such cases, the permit shall specify the responsibilities of each operator €





Article 68

Decisions ⋈ Granting of a permit **⋈**

1. Without prejudice to other requirements laid down in national or Community legislation,

[...]

[without prejudice to other requirements laid down in national or Community legislation, the competent authority shall grant a permit containing conditions guaranteeing that if the installation complies with the requirements of this Directive or, if it does not, shall refuse to grant the permit.

All permits granted and modified permits must include details of the arrangements made for air, water and land protection as referred to in this Directive.

Article 7

Integrated approach to issuing permits

<u>2.</u> Member States shall take the measures necessary to ensure that the conditions of, and \boxtimes the procedures \boxtimes procedure for the grant \boxtimes granting \boxtimes of, the permit are fully coordinated where more than one competent authority \boxtimes or more than one operator \boxtimes is involved \boxtimes or more than one permit is issued \boxtimes , in order to guarantee an effective integrated approach by all authorities competent for this procedure.

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▶ 96/61/EC Art. 9 (adapted)

3.2. In the case of a new installation or a substantial change where Article 4 of Directive 85/337/EEC applies, any relevant information obtained or conclusion arrived at pursuant to Articles 5, 6, and 7 and 9 of that Directive shall be taken into consideration \(\simega \) examined and used \boxtimes for the purposes of granting \oplus \boxtimes the \boxtimes permit.

Article 7

☒ General binding rules **☒**

8. Without prejudice to the obligation to implement \infty hold \infty a permit procedure pursuant to this Directive, Member States may prescribe

include

include

eertain requirements for certain categories of installations, \boxtimes combustion plants, waste incineration plants or waste co-incineration plants \boxtimes in general binding rules, instead of including them in individual permit conditions, provided that an integrated approach and an equivalent high level of environmental protection as a whole are ensured.

▶ 96/61/EC (adapted)

Where general binding rules are adopted, the permit may simply include a reference to such rules. 🖾

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Article 8

⊃[...] C ⊃ Accidents and incidents C

<u>Nithout prejudice to Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability,</u>

Member States shall take the necessary measures to ensure

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◆ 96/61/EC Art. 14 (adapted)

Council

- and to prevent further possible incidents or accidents;
- that the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to limit the environmental consequences and to prevent further possible incidents or accidents.

Article 914

☒ Non-compliance **☒** Compliance with permit conditions

1. Member States shall take the necessary measures to ensure that $\underline{\underline{}}$ the $\underline{\underline{}}$ the $\underline{\underline{}}$ conditions $\underline{\underline{}}$ are complied with $\underline{\underline{}}$ the operator when operating the installation,

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▶ 1999/13/EC Art.10 (adapted)⊃ Council

- <u>2.</u> Member States shall take appropriate measures to ensure that, \bigcirc [...] \bigcirc <u>if</u> \bigcirc [...] \bigcirc <u>O In the event of a breach of</u> \bigcirc the \bigcirc [...] \bigcirc \bigcirc permit conditions \bigcirc \bigcirc [...] \bigcirc \bigcirc Nember States shall ensure the following \bigcirc :
- (b) \boxtimes that the operator \boxtimes \bigcirc [...] \subset takes \boxtimes \bigcirc immediately \subset take \bigcirc \subseteq the \boxtimes measures \boxtimes necessary \boxtimes to ensure that compliance is restored within the shortest possible time \bigcirc \subseteq \bigcirc [...] \subset
- that the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to restore compliance.
- <u>(b)</u> <u>i</u> ⊃ [...] \subset non-compliance \boxtimes ⊃ [...] \subset ⊃ If the \subset breach \boxtimes ⊃ of the permit conditions poses \subset ⊃ [...] \subset immediate ⊃ an immediate \subset danger to human health \boxtimes or ⊃ threatens an immediate significant adverse effent upon \subset the environment ⊃ \subset \boxtimes and as long as compliance is not restored under the conditions of paragraph (a) in accordance with point ⊃ \subset (b) ⊃ and (c) \subset of the first subparagraph. \boxtimes the \boxtimes operation \boxtimes of the installation ⊃ \subset ⊃ [...] \subset combustion plant, waste incineration plant ⊃ [...] \subset ⊃ \subset waste co-incineration plant ⊃ or relevant part thereof \subset shall be \boxtimes of the activity is suspended.

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▶ 2003/87/EC Art. 26 (adapted)

Article 10

⋈ Emission of greenhouse gases **⋈**

- 1. Where emissions of a greenhouse gas from an installation are specified in Annex I to Directive 2003/87/EC in relation to an activity carried out in that installation, the permit shall not include an emission limit value for direct emissions of that gas, unless necessary to ensure that no significant local pollution is caused.
- 2. For activities listed in Annex I to Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC⁺, Member States may choose not to impose requirements relating to energy efficiency in respect of combustion units or other units emitting carbon dioxide on the site.
- 3. Where necessary, the competent authorities shall amend the permit as appropriate.
- 4. The three preceding subparagraphs Paragraphs 1 to 3 shall not apply to installations which are temporarily excluded from the scheme for greenhouse gas emission allowance trading within the Community in accordance with Article 27 of Directive 2003/87/EC.

OJ L 275, 25.10.2003, p.

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▶ 96/61/EC (adapted)

CHAPTER II

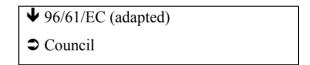
➣ Special provisions for activities listed in Annex I **☒**

new

Article 11

Scope

This Chapter shall apply to the activities set out in Annex I and, where applicable, reaching the capacity thresholds set out in that Annex.



Article 12€

General principles governing the basic obligations of the operator

Member States shall take the necessary measures to provide that the competent authority ensure that installations are operated in \(\sigma \) accordance with the following principles \(\sigma \) such a way that:

- (1)(a)all the appropriate preventive measures are taken against pollution:
- **(2)** in particular through application of the best available techniques ⋈ are applied ☒;
- (3)(b)no significant pollution is caused;

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- waste production is \bigcirc [...] \bigcirc \bigcirc prevented \bigcirc in accordance with <u>Directive 20</u> \bigcirc 08/98/ \bigcirc \bigcirc [...] \bigcirc <u>EC Council Directive 75/442/EEC of 15 July 1975 on waste</u>;
- where waste is produced, it is <u>in order of priority and in accordance with Directive</u>

 2008/98/EC, prepared for re-use, recycled, recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment;
- (6) energy is used efficiently;
- (7)(e) the necessary measures are taken to prevent accidents and limit their consequences;
- the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk \boxtimes of pollution \boxtimes and return the site of operation to a satisfactory state \boxtimes the state defined in accordance with Article 23 \bigcirc [...] \bigcirc \boxtimes .

For the purposes of compliance with this Article, it shall be sufficient if Member States ensure that the competent authority take account of the general principles set out in paragraph 1 when they determine the conditions of the permit.

Article 136

Applications for permits

- 1. Member States shall take the necessary measures to ensure that an application to the competent authority for a permit includes a description of \boxtimes the following \boxtimes :
 - (a) the installation and its activities;
 - (b) the raw and auxiliary materials, other substances and the energy used in or generated by the installation:

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- the sources of emissions from the installation; (c)
- (d) the conditions of the site of the installation:

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where applicable, a baseline report \bigcirc in accordance with Article 23 (2) \bigcirc ;

♦ 96/61/EC

- the nature and quantities of foreseeable emissions from the installation into each <u>(f)</u> medium as well as identification of significant effects of the emissions on the environment;
- the proposed technology and other techniques for preventing or, where this is not (g) possible, reducing emissions from the installation;
- (h) where necessary, measures for the prevention and recovery of waste generated by the installation;
- (i) further measures planned to comply with the general principles of the basic obligations of the operator as provided for in Article $\frac{3}{2}$ 12;
- <u>(i)</u> measures planned to monitor emissions into the environment;

▶ 2003/35/EC Art. 4.2 (adapted)

<u>(k)</u> the main alternatives \(\sigma \) to the proposed technology, techniques and measures \(\sigma \), if any, studied by the applicant in outline.

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An application for a permit shall also include a non-technical summary of the details referred to in the first subparagraph above indents.

2. Where information supplied in accordance with the requirements provided for in Directive 85/337/EEC or a safety report prepared in accordance with Directive 96/82/EC 82/501/EEC of 24 June 1982 on the major accident hazards of certain industrial activities or other information produced in response to other legislation fulfils any of the requirements of paragraph 1 this Article, that information may be included in, or attached to, the application.



Article 14

BAT reference documents ⊃ and exchange of information ⊂

States, the industries concerned, non-governmental organisations promoting environmental protection and the Commission in order to draw up, review and where necessary update BAT reference documents.

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- 2. The exchange of information shall in particular address the following:
- (a) the performance of installations and techniques in terms of emissions, expressed as short and long term averages, where appropriate, and the associated reference conditions, consumption and nature of raw materials, water consumption, use of energy and generation of waste;
- (b) the techniques used, associated monitoring, cross-media effects, economic and technical viability and developments in them;
- (c) best available techniques and emerging techniques identified after considering the issues mentioned in points (a) and (b).
- \bigcirc 3. \bigcirc \bigcirc [...] \bigcirc The BAT reference documents shall in particular describe the best available techniques, the \bigcirc [...] \bigcirc emission levels \bigcirc associated with the best available techniques, \bigcirc \bigcirc [...] \bigcirc associated monitoring, \bigcirc associated consumption levels, relevant site \bigcirc \bigcirc [...] \bigcirc remediation \bigcirc measures where appropriate \bigcirc \bigcirc [...] \bigcirc and \bigcirc [...] \bigcirc \bigcirc any \bigcirc emerging techniques, giving special consideration to the criteria listed in Annex III. \bigcirc [...] \bigcirc
- The Commission shall establish and regularly convene a forum composed of representatives of Member States, the industries concerned and non-governmental organisations promoting environmental protection.

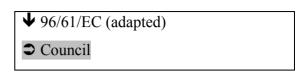
The Commission shall obtain the opinion of the forum on the content of the BAT reference documents and on the practical arrangements for the exchange of information and in particular on the following:

- (a) the rules of procedure of the forum;
- (b) the work programme for the exchange of information;

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- (c) the establishment of guidance on the collection of data;
- (d) the elaboration of BAT reference documents and their quality assurance including the suitability of their content and format.
- 5. Based on the results of the information exchange referred to in paragraph 1 and taking into account the opinion of the forum, decisions shall be adopted on the best available techniques and on emission levels associated with the best available techniques. Those measures, designed to amend non-essential elements of this Directive, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 69(2).
- 6. After the adoption of a decision in accordance with paragraph 5, and taking into account the opinion of the forum, the Commission shall, without delay, make available the BAT reference document.
- 7. Pending the adoption of a relevant decision in accordance with paragraph 5, BAT reference documents adopted by the Commission prior to the date referred to in Article 74 shall apply for the purposes of this Chapter except for Article 16(3) and (4).

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Article 159

Conditions of the permit ⋈ Permit conditions **⋈**

- 1. Member States shall ensure that the permit includes all measures necessary for compliance with the requirements of Articles <u>312</u> and <u>1019</u> for the granting of permits in order to achieve a high level of protection for the environment as a whole by means of protection of the air, water and land.
- 2. In the case of a new installation or a substantial change where Article 4 of Directive 85/337/EEC applies, any relevant information obtained or conclusion arrived at pursuant to Articles 5, 6 and 7 of that Directive shall be taken into consideration for the purposes of granting the permit.
- $\underline{\underline{\mathbf{2}}}$. \boxtimes Those measures \boxtimes The permit shall include \boxtimes at least the following: \boxtimes
 - (a) emission limit values for pollutants

 polluting substances

 in particular, those listed in Annex

 III

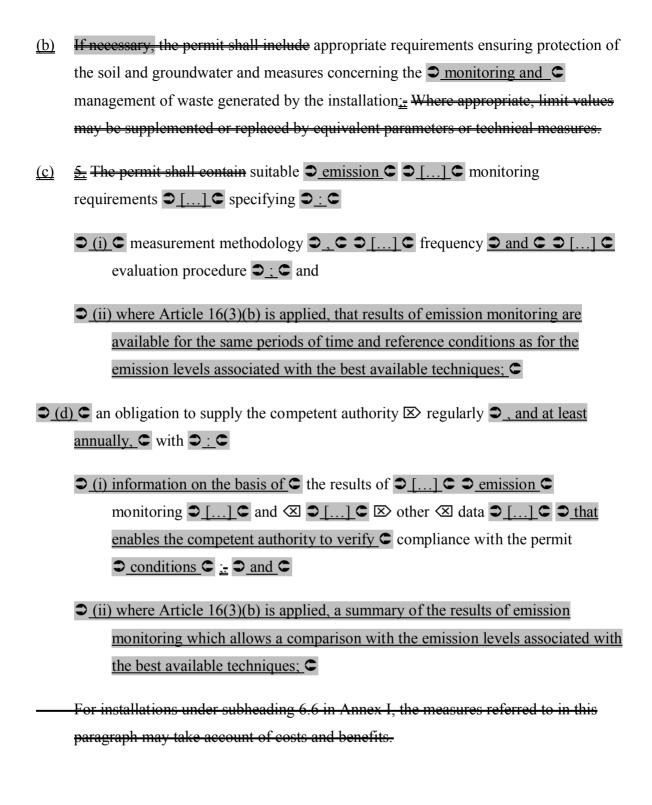
 and for other polluting substances which are

 likely to be emitted from the installation concerned in significant quantities, having regard to their nature and their potential to transfer pollution from one medium to another

 (water, air and land).

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groundwater c in relation to _[...] c __concerning the c monitoring __of soil and __groundwater c in relation to _[...] c __relevant hazardous c substances likely to be found on site having regard to the possibility of soil and groundwater contamination at the site of the installation;

◆ 96/61/EC (adapted)

Council

- D(g) C D[...] C In all circumstances, the conditions of the permit shall contain provisions on the minimis ≠ation of long distance or transboundary pollution and ensure a high level of protection for the environment as a whole
- (h)conditions for assessing compliance with the emission limit values or a reference to the applicable conditions •
- The permit may also contain temporary derogations from the requirements of paragraph 4 if a rehabilitation plan approved by the competent authority ensures that these requirements will be met within six months and if the project leads to a reduction of pollution.
- 7. The permit may contain such other specific conditions for the purposes of this Directive as the Member State or competent authority may think fit.

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<u>2.</u> Where appropriate \boxtimes For the purpose of point (a) of the first paragraph, emission \boxtimes limit values may be supplemented or replaced by equivalent parameters or technical measures <u>output</u> ensuring an equivalent level of environmental protection. \bigcirc

For installations under subheading 6.6 in Annex I, emission limit values laid down in accordance with this paragraph shall take into account practical considerations appropriate to these categories of installation.

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⊃ Council		

- 3. BAT reference documents shall be the reference for setting the permit conditions.
- \bigcirc 5. \bigcirc \bigcirc [...] \bigcirc Where an \bigcirc [...] \bigcirc \bigcirc [...] \bigcirc \bigcirc [...] \bigcirc \bigcirc activity or a type of production process carried out within an installation, \bigcirc is not covered by BAT reference documents or where those documents do not address all the potential environmental effects of the activity \bigcirc or process \bigcirc , the competent authority shall \bigcirc [...] \bigcirc \bigcirc set the permit conditions on the basis of \bigcirc the best available techniques \bigcirc that it has determined \bigcirc for the \bigcirc [...] \bigcirc activities \bigcirc or processes \bigcirc concerned, \bigcirc [...] \bigcirc \bigcirc by giving special consideration to \bigcirc the criteria listed in Annex III \bigcirc [...] \bigcirc .
- ② 6. C ③ [...] C For installations referred to in point 6.6 of Annex I, paragraphs 1 to 4 shall apply without prejudice to the legislation related to animal welfare.

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▶ 96/61/EC Art. 2 (adapted)

Article 16

Emission limit values, equivalent parameters and technical measures

<u>1.6</u> The emission limit values for \boxtimes polluting \boxtimes substances shall normally apply at the point where the emissions leave the installation \boxtimes , and \boxtimes any dilution \boxtimes prior to that point shall be \boxtimes being disregarded when determining \boxtimes those values \boxtimes them.

With regard to indirect releases ⊠ of polluting substances ⊠ into water, the effect of a water treatment plant may be taken into account when determining the emission limit values of the installation ⊠ concerned ⊠ involved, provided that an equivalent level is guaranteed for the ⊠ of ⊠ protection of the environment as a whole ⊠ is guaranteed ⊠ and provided this does not lead to higher levels of pollution in the environment without prejudice to Directive 76/464/EEC or the Directives implementing it;

♦ 96/61/EC Art. 9

<u>24</u>. Without prejudice to Article <u>19</u> <u>10</u>, the emission limit values and the equivalent parameters and technical measures referred to in <u>paragraphs 1 and 2 of Article 15 paragraph 3 shall be based on the best available techniques, without prescribing the use of any technique or specific technology, <u>but</u> taking into account the technical characteristics of the installation concerned, its geographical location and the local environmental conditions. In all circumstances, the conditions of the permit shall contain provisions on the minimization of long distance or transboundary pollution and ensure a high level of protection for the environment as a whole.</u>

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□ Council
 □ 3. The □ □ [...] □ competent authority shall set □ emission limit values that ensure that, under normal operating conditions, emissions do not exceed the emission levels associated with the best available techniques as described in the BAT reference documents through either of the following: □
 □ (a) setting □ emission limit values that do not exceed the emission levels associated with the best available techniques □ [...] □ . □ Those emission limit values shall be expressed for the same or shorter periods of time and the same reference conditions as those emission levels associated with the best available techniques; □
 □ or □
 □ (b) setting different emission limit values than referred to under point (a). □

new

 \bigcirc <u>[...]</u> \bigcirc \bigcirc <u>4.</u> \bigcirc By derogation from \bigcirc <u>[...]</u> \bigcirc paragraph \bigcirc <u>[...]</u> \bigcirc \bigcirc <u>3.</u> \bigcirc , the competent authority may, in specific cases, on the basis of an assessment of the environmental and economic costs and benefits taking into account the technical characteristics of the installation concerned, its geographical location and the local environmental conditions, set emission limit values \bigcirc <u>[...]</u> \bigcirc <u>deviating from those set by the application of paragraph 3.</u> \bigcirc

• Where point (b) is applied the competent authority shall, at least annually, assess the results of

emission monitoring in order to ensure that emissions under normal operating conditions have not

exceeded the emission levels associated with the best available techniques.

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The competent authority shall provide the reasons for the application of the preceding subparagraph including the result of the assessment and the justification for the conditions imposed.

 \bigcirc <u>E</u> \bigcirc mission limit values shall however not exceed the emission limit values set out in Annexes V to VIII, where applicable.

The Commission may establish <u>guidance specifying the</u> criteria <u>to be taken into account</u> for the <u>[...]</u> <u>application of</u> this paragraph.

The competent authorities shall re-assess the application of the first subparagraph as part of each reconsideration of the permit conditions pursuant to Article 22.

<u>[...]</u>C

 \bigcirc [...] \bigcirc \bigcirc \bigcirc The competent authority may grant temporary derogations from the requirements of paragraph 2 \bigcirc and 3 \bigcirc and from points (1) and (2) of \bigcirc [...] \bigcirc Article 12 for \bigcirc [...] \bigcirc the testing and use of emerging techniques \bigcirc for a total period of time not exceeding nine months, \bigcirc provided that \bigcirc [...] \bigcirc \bigcirc after the period specified, \bigcirc either \bigcirc the technique is \bigcirc stopped or the activity achieves at least the emission levels associated with the best available techniques.

Article 17

Monitoring requirements

1. The monitoring requirements referred to in Article 15(1) (c) and (d) shall, where applicable, be based on the conclusions on monitoring as described in the BAT reference documents.

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2. The frequency of the $\bigcirc [...]$ \bigcirc monitoring referred to in Article 15(1) (d) shall be determined by the competent authority in a permit for each individual installation or in general binding rules.

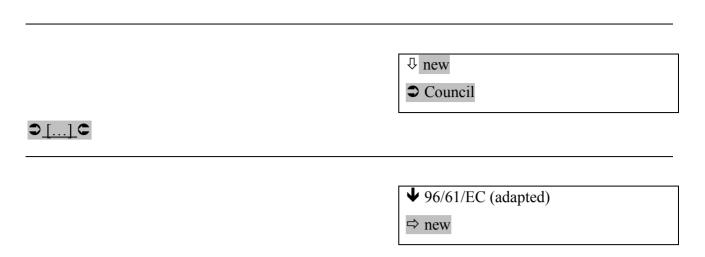
Determination of frequency shall be based on a systematic appraisal of the environmental risks of the installation concerned. \bigcirc The frequency of such monitoring shall not exceed seven years. \bigcirc [...] \bigcirc [...] \bigcirc

Article 18

General binding rules

♦ 96/61/EC Art. 9(8) (adapted) **○** Council

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Article 1910

Best available techniques and eEnvironmental quality standards

Where an environmental quality standard requires stricter conditions than those achievable by the use of the best available techniques, additional measures shall in particular be required ☑ included ☑ in the permit, without prejudice to other measures which ☑ may ☑ might be taken to comply with environmental quality standards.

Article 2011

Developments in best available techniques

Member States shall ensure that the competent authority follows or is informed of developments in best available techniques_₹ ⇒ and of the publication of any new or revised BAT reference documents. \Leftarrow

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Article 2112

Changes by operators to installations

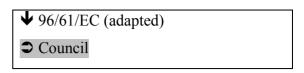
- 1. Member States shall take the necessary measures to ensure that the operator informs the competent \boxtimes authority \boxtimes authorities of any planned change in the \boxtimes nature or functioning, or an extension \boxtimes operation of the installation \boxtimes which may have consequences for the environment \boxtimes as referred to in Article 2 (10) (a). Where appropriate, the competent \boxtimes authority \boxtimes authorities shall update the permit or the conditions.
- 2. Member States shall take the necessary measures to ensure that no substantial change in the operation of the installation within the meaning of Article 2 (10) (b) planned by the operator is made without a permit issued in accordance with this Directive.

The application for a permit and the decision by the competent authority \boxtimes shall \boxtimes must cover those parts of the installation and those aspects \boxtimes details \boxtimes listed in Article <u>613</u> which may be affected by the \boxtimes substantial \boxtimes change. The relevant provisions of Articles 3 and 6 to 10 and Article <u>15 (1), (2) and (4) shall apply mutatis mutandis.</u>

▶ 96/61/EC Art. 2(10)(b) (adapted)

<u>3.(b)</u> For the purposes of this definition, Any change \boxtimes in the nature or functioning \boxtimes to or \boxtimes an \boxtimes extension of an \boxtimes installation \boxtimes operation shall be deemed to be substantial if the change or extension in itself meets \boxtimes reaches the capacity \boxtimes thresholds, if any, set out in Annex I

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Article 2213

Reconsideration and updating of permit conditions by the competent authority

1. Member States shall take the necessary measures to ensure that ☒ the ☒ competent ☒ authority ☒ authorities periodically ☒ reconsiders ☐ in accordance with paragraphs 2 to 5 ☐ below ☐ all ☒ reconsider permit conditions and, where necessary ☒ to ensure compliance with this Directive, updates those ☒, update permit conditions.



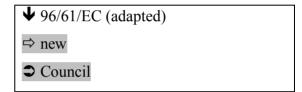
2. On request of the competent authority the operator shall submit all the information necessary for the purpose of reconsidering the permit conditions , including in particular results of emission monitoring and other data that enables a comparison of the operation of the installation with the best available techniques and with the emission levels associated with the best available techniques described in the applicable BAT reference documents.

When reconsidering permit conditions the competent authority shall use any information resulting from monitoring or inspections.

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- Article 14(5) relating to the main activity of an installation, the competent authority shall ensure that:
- (a) all the permit conditions for the installation concerned are reconsidered and, if necessary, updated to ensure compliance with this Directive, *inter alia* with Article 16(3) and (4), where applicable;
- (b) the installation complies with those permit conditions.

The reconsideration shall take into account all the new or revised BAT reference documents applicable to the installation and adopted since the permit was issued or last reconsidered.



- <u>42</u>. \bigcirc [...] \bigcirc Where an installation is not covered by any of the BAT reference documents, the permit conditions shall be reconsidered and, if necessary, updated where \bigcirc \bigcirc developments \bigcirc in the best available techniques make it possible to reduce \boxtimes allow for the significant reduction of \boxtimes emissions significantly without imposing excessive costs:
- <u>5. The permit conditions shall be reconsidered and, where necessary, updated at least in the following cases:</u>
 - (a) the pollution caused by the installation is of such significance that the existing emission limit values of the permit need to be revised or new such values need to be included in the permit;

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- (⊃ b ⊂ ⊃ [...] ⊂) the operational safety of the process or activity requires other techniques to be used;
- $(\supset c \subset \supset [...] \subset) \Rightarrow$ where it is necessary to comply with a $\supset [...] \subset \supset$ new or revised C environmental quality standard in accordance with Article 19.

- new provisions of Community or national legislation so dictate.



Article 23

Site closure and remediation

1. Without prejudice to Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage¹ \supset , to Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration² , to Directive 2000/60/EC and to Directive 20../../EC of the European Parliament and of the Council establishing a framework for the protection of soil and amending Directive 2004/35/EC³ the competent authority shall ensure that the permit conditions imposed to ensure the respect of the principle set out in point (8) of Article 12 are implemented upon definitive cessation of activities.

OJ L

SJC/mko 5381/3/09 REV 3 52 DG I EN

OJ L 143, 30.4.2004, p. 56.

OJ L 372, 27.12.2006, p. 19.

substances and having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall prepare and submit to the competent authority a baseline report before starting operation of an installation or before a permit for an installation is updated \bigcirc for the first time after the date referred in Article 71(1) \bigcirc . That report shall contain the quantified information necessary to determine the $\supset [...] \subset$ state of the soil and the groundwater. ⊃ [...] C ⊃ C ⊂ riteria on the content of the baseline report ⊃ shall be established C. That measure designed to amend non-essential elements of this Directive, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 69(2). 3. Upon definitive cessation of the activities, the operator shall assess the state of the soil and groundwater contamination by $\supset [...] \subset \supset$ relevant hazardous \subset substances. Where the installation has caused $\supset [...] \subset \supset$ significant \subset pollution of soil or groundwater by $\supset [...] \subset$ ⊃ relevant hazardous ⊂ substances compared to the ⊃ [...] ⊂ state established in the baseline report referred to in paragraph 2, the operator shall remediate the site and return it to that \bigcirc [...] \subseteq state. 4. \supset [...] \subset \supset . Without prejudice to paragraph 3, where the pollution at the site poses a significant risk to human health or the environment, including groundwater, Member States shall ensure that such site is remediated so that it ceases to pose a significant risk. Such risk is to be assessed taking account of the current and approved future use of the land and all possible known relevant contaminant pathways.

2. Where the activity involves the use, production or release of \square [...] \square \square relevant hazardous \square

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5. Where the operator is not required to prepare a baseline report referred to in paragraph 2, the operator shall take the necessary measures upon definitive cessation of the activities to ensure that the site is remediated so that it ceases to pose a significant risk to human health or the environment, including groundwater. Such risk is to be assessed taking account of the current and approved future use of the land and all possible known relevant contaminant pathways.

> new **⊃** Council

<u>⊃[...]</u>C

Article 25

⊃ Environmental **⊂** inspections

1. Member States shall set up a system of \supseteq environmental \subseteq inspections of installations addressing the examination of the full range of relevant environmental effects from the installations concerned. **C**.

DG I

♦ 96/61/EC (adapted)	_
○ Council	

Article 14

Compliance with permit conditions

Member States shall take the necessary measures to ensure that:

- the conditions of the permit are complied with by the operator when operating the installation,
- the operator regularly informs the competent authority of the results of the monitoring of releases and without delay of any incident or accident significantly affecting the environment,
- = operators of installations afford the representatives of the competent ⊠ authorities ⊠ authority all necessary assistance to enable ⊠ those authorities ⊠ them to carry out any □[...] □ □ site visits □ within the installation, to take samples and to gather any information necessary for the performance of their duties for the purposes of this Directive.



- 2. Member States shall ensure that all installations are covered by an <u>□ environmental</u> c inspection plan <u>□ at national, regional or local level and shall ensure that this plan is regularly reviewed and, where appropriate, updated c.</u>
- 3. Each **○** <u>environmental</u> **○** inspection plan shall include the following:
 - (a) general assessment of relevant significant environmental issues;
 - (b) the geographical area covered by the inspection plan;
 - (c) a register of the installations covered by the $\bigcirc [...] \bigcirc$ plan $\bigcirc [...] \bigcirc$;

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	(d)procedures for drawing up prog	grammes for routine	environmental	inspections
	pursuant to paragraph 4; C			-

(
$$\bigcirc$$
 e \bigcirc \bigcirc [...] \bigcirc) procedures for non-routine \bigcirc environmental \bigcirc inspections pursuant to paragraph \bigcirc [...] \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc

(
$$\supseteq \underline{\mathbf{f}} \subseteq [...] \subseteq$$
) where necessary, provisions on the co-operation between different inspection authorities.

4. Based on the inspection plans, the competent authority shall regularly draw up ⊃[...] ⊂ programmes ⊃ for routine environmental inspections ⊂, ⊃[...] ⊂ ⊃ including ⊂ the frequency of site visits for different types of installations.

<u>)[...]</u>C

The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned and shall not exceed one year for installations posing the highest risks and three years for installations posing the lowest risks.

The systematic appraisal of the environmental risks shall be based on at least the following criteria:

- (a) the potential and actual impacts of the installations concerned on human health and the environment taking into account the levels and types of emissions, the sensitivity of the local environment and the risk of accidents;
- (b) the record of compliance with permit conditions;
- (c) participation in the Community eco-management and audit scheme (EMAS).

D[...]C

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D[...] C D_5 C . Non-routine Denvironmental C inspections shall be carried out to investigate serious environmental complaints, serious environmental accidents, incidents and occurrences of non-compliance as soon as possible and, where appropriate, before the issue, reconsideration or update of a permit.

D[...] C D_6 C. Following each D site visit C D[...] C, the competent authority shall prepare a report describing the D relevant C findings as to compliance of the installation with the D permit conditions C D[...] C and conclusions on whether any further action is necessary.

The D draft C report shall be D sent C D[...] C to the operator concerned and D the final report C made publicly available D in accordance with the provisions of Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information C within D[...] C D three C months after the D[...] C D site visit C takes place.

D[...] C D Without prejudice to Article 9(2), the C competent authority shall ensure that D the operator takes C all the necessary actions identified in the report D[...] C within a reasonable period.

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♦ 96/61/EC		

Article 2615

Access to information and public participation in the permit procedure

Ψ 2003/35/EC Art. 4.3 (adapted)
⇒ Council

- 1. Member States shall ensure that the public concerned are given early and effective opportunities to participate in the procedure for \boxtimes following procedures \boxtimes :
 - (a)
 - (b) issuing \boxtimes of \boxtimes a permit for any substantial change in the operation of an installation:
 - (c) updating of a permit or permit conditions for an installation in accordance with Article 13, paragraph 2, first indent, point (a) of Article 22(5 5 C 5 [...] C).

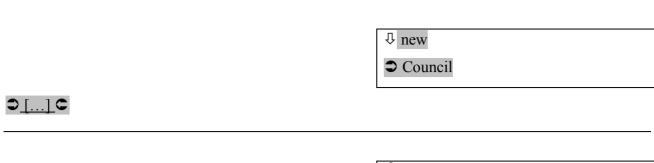


⊃ [...] €

▶ 2003/35/EC Art. 4.3 (adapted)

The procedure set out in Annex $\underline{IV} \underline{\underline{V}}$ shall apply for the purposes of \boxtimes to \boxtimes such participation.

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◆ 2003/35/EC Art. 4.3 (adapted)

Council

 \bigcirc 2 \bigcirc \bigcirc \bigcirc . When a decision \boxtimes on granting, reconsideration or updating of a permit, \bigcirc \bigcirc \bigcirc has been taken, the competent authority shall inform the public in accordance with the appropriate procedures and shall make available to the public \bigcirc including via the internet in relation to points (a) to (g), \bigcirc the following information:

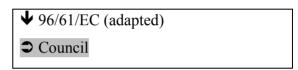
- (a) the content of the decision, including a copy of the permit and of any conditions and any subsequent updates; and
- (b) having examined the concerns and opinions expressed by the public concerned, the reasons and considerations on which the decision is based; including information on the public participation process.



(c) the results of the consultations held before the decision was taken and an explanation of how they were taken into account in that decision;

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- (d) the title of the BAT reference documents relevant to the installation or activity concerned;
- (e) how \bigcirc [...] \bigcirc the permit \bigcirc conditions, including the emission limit values \bigcirc \bigcirc [...] \bigcirc have been determined in relation to the best available techniques and associated emission levels as described in the BAT reference documents;
- (f) where \bigcirc Article 16(4) is applied \bigcirc \bigcirc [...] \bigcirc , the reasons for that \bigcirc application \bigcirc \bigcirc [...] \bigcirc \bigcirc as referred to in the second subparagraph of Article 16(4) \bigcirc ;
- (g) the result of the reconsideration \bigcirc [...] \bigcirc of permits as referred to in Article 22 \bigcirc [...] \bigcirc ;



- (h)2. the results of monitoring of releases as required under the permit conditions referred to in Article 9 and held by the competent authority must be made available to the public.
- □ [...] □ □ 3 □ 2. Paragraphs 1 □ and □ □ [...] □ 2 □ [...] □ shall apply subject to the restrictions laid down in Article 4(1) and (2) of Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information Article 3 (2) and (3) of Directive 90/313/EEC.

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▶ 2003/35/EC Art. 4.3 (adapted)

Article 2715a

Access to justice

<u>1.</u> Member States shall ensure that, in accordance with the relevant national legal system, members of the public concerned ⊠ have access to a review procedure before a court of law or another independent and impartial body established by law to challenge the substantive or procedural legality of decisions, acts or omissions subject to Article 26 when one of the following conditions is met ⊠:

- (a) \Bigsize they have \Bigsize \frac{\text{having}}{\text{having}} a sufficient interest; \text{or alternatively,}
- (b) Exthey maintain Examination the impairment of a right, where administrative procedural law of a Member State requires this as a precondition.

have access to a review procedure before a court of law or another independent and impartial body established by law to challenge the substantive or procedural legality of decisions, acts or omissions subject to the public participation provisions of this Directive.

- <u>2.</u> Member States shall determine at what stage the decisions, acts or omissions may be challenged.
- <u>3.</u> What constitutes a sufficient interest and impairment of a right shall be determined by the Member States, consistently with the objective of giving the public concerned wide access to justice.

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To this end, the interest of any non-governmental organisation \boxtimes promoting environmental protection and \boxtimes meeting the \boxtimes any \boxtimes requirements referred to in Article 2(14) \boxtimes under national law \boxtimes shall be deemed sufficient for the purpose of <u>subparagraph</u> point (a) of <u>this Article</u> paragraph 1.

Such organisations shall also be deemed to have rights capable of being impaired for the purpose of <u>subparagraph</u> point (b) of <u>this Article</u> paragraph 1.

<u>4.</u> The provisions of <u>this Article</u> <u>paragraphs 1, 2 and 3</u> shall not exclude the possibility of a preliminary review procedure before an administrative authority and shall not affect the requirement of exhaustion of administrative review procedures prior to recourse to judicial review procedures, where such a requirement exists under national law.

Any such procedure shall be fair, equitable, timely and not prohibitively expensive.

5. In order to further the effectiveness of the provisions of this Article, Member States shall ensure that practical information is made available to the public on access to administrative and judicial review procedures.

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♦ 96/61/EC

Article 2817

Transboundary effects

▶ 2003/35/EC Art. 4.5(a) (adapted)

1. Where a Member State is aware that the operation of an installation is likely to have significant negative effects on the environment of another Member State, or where a Member State \boxtimes which is \boxtimes likely to be significantly affected so requests, the Member State in whose territory the application for a permit pursuant to Article 4 or Article $\frac{12(2)}{2}$ 21(2) was submitted shall forward to the other Member State any information required to be given or made available pursuant to Annex $\underline{\underline{V}}$ $\underline{\underline{IV}}$ at the same time as it makes it available to $\underline{\underline{its}}$ own nationals \boxtimes the public \boxtimes .

Such information shall serve as a basis for any consultations necessary in the framework of the bilateral relations between the two Member States on a reciprocal and equivalent basis.

◆ 96/61/EC (adapted)

2. Within the framework of their bilateral relations, Member States shall see to it ⋈ ensure ⋈ that in the cases referred to in paragraph 1 the applications are also made available for an appropriate period of time to the public of the Member State likely to be affected so that it will have the right to comment on them before the competent authority reaches its decision.

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♥ 2003/35/EC Art. 4.5(b) (adapted)

- 3. The results of any consultations pursuant to paragraphs 1 and 2 $\frac{1}{2}$ shall $\frac{1}{2}$ be taken into consideration when the competent authority reaches a decision on the application.
- 4. The competent authority shall inform any Member State_{$\frac{1}{2}$} which has been consulted pursuant to paragraph $1_{\frac{1}{2}}$ of the decision reached on the application and shall forward to it the information referred to in Article $\frac{15(5)}{26(3)}$. That Member State shall take the measures necessary to ensure that that information is made available in an appropriate manner to the public concerned in its own territory.

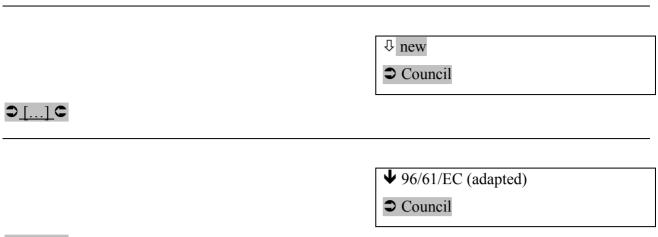


D[...]C

1. With a view to exchanging information, Member States shall take the necessary measures to send the Commission every three years, and for the first time within 18 months of the date on which this Directive is brought into effect, the available representative data on the limit values laid down by specific category of activities in accordance with Annex I and, if appropriate, the best available techniques from which those values are derived in accordance with, in particular, Article 9. On subsequent occasions the data shall be supplemented in accordance with the procedures laid down in paragraph 3 of this Article.

<u>2.</u> ⊃[...] C

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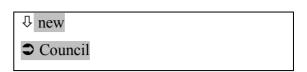


⊃ [...] C

Every three years the Commission shall publish the results of the exchanges of information.

- 3. Reports on the implementation of this Directive and its effectiveness compared with other Community environmental instruments shall be established in accordance with the procedure laid in Article 5 and 6 of Directive 91/692/EEC. The first report shall cover the three years following the date on which this present Directive is brought into effect as referred to in Article 21. The Commission shall submit the report to the Council, accompanied by proposals if necessary.
- 4. Member States shall establish or designate the authority or authorities which are to be responsible for the exchange of information under paragraphs 1, 2 and 3 and shall inform the Commission accordingly.

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Article 30

Emerging techniques

♦ 96/61/EC (adapted)

Article 18

Community emission limit values

1. Acting on a proposal from the Commission, the Council will set emission limit values, in accordance with the procedures laid down in the Treaty, for:

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- the categories of installations listed in Annex I except for the landfills covered by categories 5.1 and 5.4 of that Annex.

and

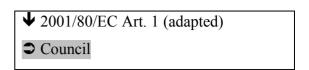
- the polluting substances referred to in Annex III,

for which the need for Community action has been identified, on the basis, in particular, of the exchange of information provided for in Article 16.

2. In the absence of Community emission limit values defined pursuant to this Directive, the relevant emission limit values contained in the Directives referred to in Annex II and in other Community legislation shall be applied as minimum emission limit values pursuant to this Directive for the installations listed in Annex I.

Without prejudice to the requirements of this Directive, the technical requirements applicable for the landfills covered by eategories 5.1 and 5.4 of Annex I, shall be fixed by the Council, acting on a proposal by the Commission, in accordance with the procedures laid down in the Treaty.

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CHAPTER III

➣ Special provisions for combustion plants **☒**

Article 311

➣ Scope **⋘**

This Directive This chapter shall apply to combustion plants

□ [...] □ □ total □ rated thermal input of which is equal to or greater than 50 MW, irrespective of the type of fuel used (solid, liquid or gaseous).

Article 2

For the purpose of this Directive:

- (1) "emission" means the discharge of substances from the combustion plant into the air;
- (2) "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);

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- (3) "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/Nm3, assuming an exygen content by volume in the waste gas of 3 % in the case of liquid and gaseous fuels, 6 % in the case of solid fuels and 15 % in the case of gas turbines;
- (4) "rate of desulphurisation" means the ratio of the quantity of sulphur which 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;
- (5) "operator" means any natural or legal person who operates the combustion plant, or who has or has been delegated decisive economic power over it:
- (6) "fuel" means any solid, liquid or gaseous combustible material used to fire the combustion plant with the exception of waste covered by Council Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants (9), Council Directive 89/429/EEC of 21 June 1989 on the reduction of air pollution from existing municipal waste incineration plants (10), and Council Directive 94/67/EC of 16 December 1994 concerning the incineration of hazardous waste (11) or any subsequent Community act repealing and replacing one or more of these Directives:
- (7) "combustion plant" means any technical apparatus in which fuels are oxidised in order to use the heat thus generated.

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OJ L 163, 14.6, 1989, p. 32.

OJ L 203, 15.7.1989, p. 50.

³ OJ L 365, 31.12.1994, p. 34.

This Directive 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, this Directive This chapter shall not apply to the following combustion plants:

- 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 ⋈ are ⋈ is not operated as an independent combustion plant
 ⋈ 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 used on offshore platforms;
- \boxtimes (j) plants which use any solid or liquid waste as a fuel other than waste referred to in \bigcirc [...] \bigcirc Article \bigcirc [...] \bigcirc 3(20)(b) \bigcirc \boxtimes

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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 to Article 7(1) and Annex VIII(A) and (B);

Plants powered by diesel, petrol and gas engines shall not be covered by this Directive.

- (8) "multi-fuel firing unit" means any combustion plant which may be fired simultaneously or alternately by two or more types of fuel;
- (9) "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;
- (10) "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;
- (11) "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:

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(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;

(12) "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.

(13) "Outermost Regions" means the French Overseas Departments with regard to France, the Azores and Madeira with regard to Portugal and the Canary Islands with regard to Spain.



Article 32

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. □



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♦ 2001/80/EC Art. 2(7) (adapted) **♦** Council

D[...] C D2. C . Where two or more separate ⊠ combustion plants which have been granted a permit D for the first time C or have submitted a complete application D[...] C D for such a permit on or after 1 July 1987 C (2) ⊠ new plants are installed in such a way that, taking technical and economic factors into account, their waste gases could, in the judgement of the competent authorities, D in the judgement of the competent authority, C be discharged through a common stack, the combination formed by such plants shall be regarded ⊠ considered ⊠ as a single ⊠ combustion plant ⊠ unit ⊠ and their capacities added D for the purpose of calculating the total rated thermal input. C . ⊠

② 3. For the purpose of calculating the total rated thermal input of a combination of combustion plants referred to in paragraphs 1 and 2, individual combustion plants with a rated thermal input below 3 MW shall not be considered. □

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↓ 2001/80/EC

Article 3

- 1. Not later than 1 July 1990 Member States shall draw up appropriate programmes for the progressive reduction of total annual emissions from existing plants. The programmes shall set out the timetables and the implementing procedures.
- 2. In accordance with the programmes mentioned in paragraph 1, Member States shall 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 the provisions of Article 4 that apply to existing plants.
- 3. When the programmes are being carried out, Member States shall also determine the total annual emissions in accordance with Annex VIII(C).
- 4. 4. If a substantial and unexpected change in energy demand or in the availability of certain fuels or certain generating installations creates serious technical difficulties for the implementation by a Member State of its programme drawn up under paragraph 1, the Commission shall, at the request of the Member State concerned and taking into account the terms of the request, take a decision to modify, for that Member State, the emission ceilings and/or the dates set out in Annexes I and II and communicate its decision to the Council and to the Member States. Any Member State may within three months refer the decision of the Commission to the Council. The Council, acting by a qualified majority, may within three months take a different decision.

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Article 4

1. Without prejudice to Article 17 Member States 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 Annexes III to VII in respect of sulphur dioxide, nitrogen oxides and dust.

▶ 2001/80/EC Art. 9 (adapted)

Article 33

⋈ Emission limit values **⋈**

1. Waste gases from combustion plants shall be discharged in ☒ a ☒ controlled ☒ way ☒ fashion by means of a stack, \(\bar{\infty} \) containing one or more flues \(\bar{\infty} \), The licence referred to in Article 4 and licences for combustion plants covered by Article 10 shall lay down the discharge conditions. The competent authority shall in particular ensure that the stack height ⋈ of which ⋈ is

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◆ 2001/80/EC (adapted)

Council

- 2. Member States 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 paragraph 1, contain conditions relating to compliance with

 All permits for installations containing combustion plants which have been granted a permit or have submitted a complete application before the date referred to in Article 72(2) provided that such plant is put into operation no later than one year after that date shall include conditions ensuring that emissions to air from these plants do not exceed

 the emission limit values laid down in Part

 the of Annex

 VIII in respect of sulphur dioxide, nitrogen oxides and dust.
- \boxtimes 3. All permits for installations containing combustion plants not covered by paragraph 2 shall include conditions ensuring that emissions to the air from these plants do not exceed the emission limit values laid down in Part 2 of Annex V. \boxtimes
- △ All combustion plants which have been granted an exemption as referred to in Article 4(4) of Directive 2001/80/EC and which are operated after 1 January 2016, shall be subject to the emission limit values laid down in Part 2 of Annex V.

3bis. The emission limit values set out in Annex V shall apply to emissions of each common stack and according to the total rated thermal input of the combustion plant.

◆ 2001/80/EC Art. 7 (adapted)

<u>42</u>. The competent authority may <u>allow</u> \boxtimes grant a derogation \boxtimes <u>a suspension</u> for a maximum of six months from the obligation to comply with the emission limit values provided for in <u>paragraphs</u> <u>2 and 3 Article 4</u> for sulphur dioxide in respect of a \boxtimes combustion \boxtimes plant which to this end normally uses low-sulphur fuel, in cases where the operator is unable to comply with \boxtimes those \boxtimes these limit values because of an interruption in the supply of low-sulphur fuel resulting from a serious shortage.

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- \boxtimes Member States shall immediately inform \boxtimes the The Commission \boxtimes of any derogation granted under the first subparagraph \boxtimes shall immediately be informed of such cases.
- 53. The competent authority may allow \boxtimes grant \boxtimes a derogation from the obligation to comply with the emission limit values provided for in paragraphs 2 and 3 Article 4 in cases where a \boxtimes combustion \boxtimes plant which normally \boxtimes using \boxtimes using \boxtimes using only gaseous fuel, and which would otherwise need to be equipped with a waste gas purification facility, has to resort exceptionally, and for a period not exceeding 10 days except where there is an overriding need to maintain energy supplies, to the use of other fuels because of a sudden interruption in the supply of gas \boxtimes and for this reason would need to be equipped with a waste gas purification facility \boxtimes . \boxtimes 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. \boxtimes

The \boxtimes operator shall immediately inform the \boxtimes competent authority shall immediately be informed of each specific case \boxtimes referred to in the first subparagraph \boxtimes as it arises.

Member States shall inform the Commission immediately of \boxtimes any derogation granted under the first \boxtimes the cases referred to in this subparagraph.

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◆ 2001/80/EC (adapted)

Council

Article 10

6. Where a combustion plant is extended by at least 50 MW, the emission limit values \boxtimes specified \boxtimes as set in part 2B of Annex \boxtimes VIII to VIII shall apply to the new part of the plant \boxtimes affected by the change \boxtimes and shall be \boxtimes set \boxtimes fixed in relation to the \boxtimes rated \boxtimes thermal capacity \boxtimes input \boxtimes of the entire \boxtimes combustion \boxtimes plant. This provision shall not apply in the cases referred to in Article 8(2) and (3).

Where the operator of a combustion plant is envisaging a change according to Articles 2(10)(b) and 12(2) of Directive 2008/1/EC, 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.

- Nhere the operator of a combustion plant is envisaging a change of a plant, which may have consequences for the environment and which is affecting a part of the plant with a rated thermal input of 50 MW or more, the emission limit values as set out in Part 2 of Annex V shall apply to the part of the plant affected by this change.
 □
- <u>⊃</u> 7. The emission limit values set out in Part 1 and Part 2 of Annex V shall not apply to the following combustion plants:
- (a) diesel engines

(b) recovery boilers for black liquor within installations for the production of pulp

8. On the basis of the best available techniques, the Commission shall, by 31 December 2013, review the need for establishing Community-wide emission limit values for the combustion plants referred to in Article 33(7) as well as for amending the emission limit values set out in Annex V for combustion plants firing non-commercial fuels which are operated within refineries or iron and steel plants. It shall report the results of that review to the European Parliament and to the Council accompanied, if appropriate, by a legislative proposal.

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Those measures, designed to amend non-essential elements of this Directive, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 69(2). The Commission shall make appropriate proposals by 31 December 2013 at the latest.

▶ 2001/80/EC Art. 4 (adapted)

3. Without prejudice to Directive 2008/1/EC and Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management. Member States 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 paragraph 1; or

(b) ensuring that existing plants are subject to the national emission reduction plan referred to in paragraph 6;

and, where appropriate, applying Articles 5, 7 and 8.

4. Without prejudice to Directives 2008/1/EC and 96/62/EC, existing plants may be exempted from compliance with the emission limit values referred to in paragraph 3 and from their inclusion in the national emission reduction plan on the following conditions:

OJ L 296, 21.11.1996, p. 55.

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- (a) 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) 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. Member States may require compliance with emission limit values and time limits for implementation which are more stringent than those set out in paragraphs 1, 2, 3 and 4 and in Article 10. They may include other pollutants, and they may impose additional requirements or adaptation of plant to technical progress.
- 6. Member States may, without prejudice to this Directive and Directive 2008/1/EC, and taking into consideration the costs and benefits as well as their obligations under Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants and Directive 96/62/EC, 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.

5381/3/09 REV 3 80 DG I EN

See p. 22 of this Edition of the Official Journal.

The national emission reduction plan shall reduce the total annual emissions of nitrogen exides (NO_x), sulphur diexide (SO₂) and dust from existing plants to the levels that would have been achieved by applying the emission limit values referred to in paragraph 3 to the existing plants in operation in the year 2000, (including those existing plants undergoing 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.

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.

The national emission reduction plan may under no circumstances exempt a plant from the provisions laid down in relevant Community legislation, including inter alia Directive 2008/1/EC.

The following conditions shall apply to national emission reduction plans:

- (a) the plan shall comprise objectives and related targets, measures and timetables for reaching these objectives and targets, and a monitoring mechanism;
- (b) Member States shall communicate their national emission reduction plan to the Commission no later than 27 November 2003:
- (c) within six months of the communication referred to in point (b) the Commission shall evaluate whether or not the plan meets the requirements of this paragraph. When the Commission considers that this is not the case, it shall inform the Member State and within the subsequent three months the Member State shall communicate any measures it has taken in order to ensure that the requirements of this paragraph are met;

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- (d) the Commission shall, no later than 27 November 2002, develop guidelines to assist Member States in the preparation of their plans.
- 7. Not later than 31 December 2004 and in the light of progress towards protecting human health and attaining the Community's environmental objectives for acidification and for air quality pursuant to Directive 96/62/EC, the Commission shall submit a report to the European Parliament and the Council in which it shall assess:
 - (a) the need for further measures;
 - (b) the amounts of heavy metals emitted by large combustion plants;
 - (e) the cost-effectiveness and costs and advantages of further emission reductions in the combustion plants sector in Member States compared to other sectors;
 - (d) the technical and economic feasibility of such emission reductions:
 - (e) the effects of both the standards set for the large combustion plants sector including the provisions for indigenous solid fuels, and the competition situation in the energy market, on the environment and the internal market;
 - (f) any national emission reduction plans provided by Member States in accordance with paragraph 6.

The Commission shall include in its report an appropriate proposal of possible end dates or of lower limit values for the derogation contained in footnote 2 to Annex VI A.

8. The report referred to in paragraph 7 shall, as appropriate, be accompanied by related proposals, having regard to Directive 2008/1/EC.

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Article 5

By way (of derogation from Annex III:
	(1) Plants, of a rated thermal input equal to or greater than 400 MW, which do not operate
į	more than the following numbers of hours a year (rolling average over a period of five
!	years),
•	until 31 December 2015, 2000 hours;
•	- from 1 January 2016, 1500 hours;
	shall be subject to a limit value for sulphur dioxide emissions of 800 mg/Nm ² .
	This provision shall not apply to new plants for which the licence is granted pursuant to
;	Article 4(2).
	(2) Until 31 December 1999, the Kingdom of Spain may authorise new power plants with a
į	rated thermal input equal to or greater than 500 MW burning indigenous or imported solid
;	fuels, commissioned before the end of 2005 and complying with the following
į	requirements:
	(a) in the case of imported solid fuels, a sulphur dioxide emission limit value of 800
	mg/Nm² ;
•	(b) in the case of indigenous solid fuels, at least a 60 % rate of desulphurisation,

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- provided that the total authorised capacity of such plants to which this derogation applies

 does not exceed:
 - 2000 MWe in the case of plants burning indigenous solid fuels;
 - in the case of plants burning imported solid fuels either 7500 or 50 % of all the new capacity of all plants burning solid fuels authorised up to 31 December 1999, whichever is the lower.

Article 6

In the case of new plants for which the licence is granted pursuant to Article 4(2) or plants covered by Article 10, Member States shall ensure that the technical and economic feasibility of providing for the combined generation of heat and power is examined. Where this feasibility is confirmed, bearing in mind the market and the distribution situation, installations shall be developed accordingly.

⊃ Article 33a

Desulphurisation rate

For combustion plants firing indigenous solid fuel, which cannot comply with the emission limit values for sulphur dioxide, referred to in Article 33(2) and (3), due to the characteristics of this fuel, Member States may apply instead the minimum rates of desulphurisation set out in Part 5 of Annex V, in accordance with the compliance rules set out in Part 6 of that Annex.

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Article 33b

Transitional National Plan

- 1. During the period from 1 January 2016 to 31 December 2019, Member States may define and implement a transitional national plan covering combustion plants which were granted the first permit before 1 July 1987 as well as gas turbines which were granted a first permit before 27 November 2002. For each of the combustion plants covered by the plan, the plan shall cover emissions of one or more of the following pollutants: nitrogen oxides (NOx), sulphur dioxide (SO2) and dust. For gas turbines, only NOx emissions can be covered by the plan.
- 2. Combustion plants covered by the plan may be exempted from compliance with the emission limit values referred to in Article 33(2) for the pollutants which are subject to the plan or, where applicable, with the rates of desulphurisation referred to in Article 33a.
- 3. For each of the pollutants it covers, the transitional national plan shall set a ceiling defining the maximum total yearly emissions for all of the plants covered by the plan on the basis of each plant's total actual rated thermal input on 31 December 2010, its actual annual operating hours and its fuel use, averaged over the last ten years of operation up to and including 2010.

The ceiling for the year 2016 shall be calculated on the basis of the relevant emission limit values set out in Annexes III to VII of Directive 2001/80/EC or, in the case of gas turbines, the emission limit values for NOx set out for such plants in Part B of Annex VI of Directive 2001/80/EC. The ceiling for the year 2019 shall be calculated on the basis of the emission limit values set out in Part 1 of Annex V or, where applicable, on the basis of the rates of desulphurisation set out in Part 5 of Annex V. The ceilings for the years 2017 and 2018 shall be set providing a linear decrease of the ceilings between 2016 and 2019.

Where a plant included in the transitional national plan is closed or no longer falls within the scope of Chapter III, this shall not result in an increase in total annual emissions from the remaining plants covered by the plan.

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- 4. The transitional national plan shall also contain provisions on monitoring and reporting that comply with the implementing rules established in accordance with paragraph 5, as well as the measures foreseen for each of the plants in order to ensure timely compliance with the emission limit values that will apply after 1 January 2020.
- 5. Implementing rules for the transitional national plans shall be established concerning the setting of emission ceilings in accordance with paragraph 3 and on monitoring and reporting. That measure, designed to amend non-essential elements of this Directive, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 69(2). The Commission shall make an appropriate proposal not later than 6 months after the date referred to in Article 74.

6. Not later than 1 January 2013, Member States shall communicate their transitional national plans to the Commission.

Within twelve months of receiving a plan, the Commission shall evaluate it. When the Commission considers a plan not to be in accordance with the rules referred to in paragraph 5, it shall inform the Member State concerned that its plan cannot be accepted. Where the Commission has raised no objections within twelve months of receipt of a plan, the Member State concerned shall consider its plan to be accepted.

7. Member States shall inform the Commission of any subsequent changes to the plan.

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Article 33c

Limited life time derogation

- 1. During the period from 1 January 2016 to 31 December 2019, combustion plants may be exempted from compliance with the emission limit values referred to in Article 33(2) and with the rates of desulphurisation referred to in Article 33a, where applicable, and from their inclusion in the transitional national plan referred to in Article 33b on the following conditions:
- (a) the operator of the combustion plant undertakes, in a written declaration submitted by 1 January 2014 at the latest to the competent authority, not to operate the plant for more than 15 000 operating hours, starting from 1 January 2016 and ending no later than 31 December 2019;
- (b) the operator is required to submit each year to the competent authority a record of the number of operating hours since 1 January 2016;
- (c) the emission limit values for SO2, NOx and dust laid down in the combustion plant's permit, pursuant in particular to the requirements of Directives 2008/1/EC and 2001/80/EC, shall at least be maintained during the remaining operational life of the combustion plant.
- (d) the combustion plant has not been granted an exemption as referred to in Article 4(4) of Directive 2001/80/EC
- 2. At the latest on 1 January 2016, each Member State shall communicate to the Commission a list of any combustion plants to which the first paragraph applies, including their rated thermal input, the fuel types used and the applicable emission limit values for SO2, NOx and dust. For plants subject to the first paragraph Member States shall communicate annually to the Commission a record of the number of operating hours since 1 January 2016.

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Article 33d

Small isolated systems

Until 31 December 2019, combustion plants being at the date referred to in Article 74 part of small isolated system as defined in Article 2(26) of Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC may be exempted from compliance with the emission limit values referred to in Article 33(2) and the rates of desulphurisation referred to in Article 33a, where applicable. Before that date, the emission limit values laid down in the permits of these combustion plants, pursuant in particular to the requirements of Directives 2008/1/EC and 2001/80/EC, shall at least be maintained.

▶ 2001/80/EC (adapted)

Article 347

☒ Malfunction or breakdown of the abatement equipment **☒**

- 1. Member States shall ensure that provision is made in the licences or permits referred to in Article 4 for procedures relating to malfunction or breakdown of the abatement equipment.
- 2. In case of a breakdown the competent authority shall in particular require the operator to 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.

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In any case Thethe competent authority \boxtimes operator \boxtimes shall be notified \boxtimes notify the competent authority \boxtimes within 48 hours \boxtimes after the malfunction or breakdown of the abatement equipment \boxtimes .

In no circumstances shall Thethe cumulative duration of unabated operation \boxtimes shall not \boxtimes in any twelve-month period \boxtimes .

The competent authority may allow exceptions \boxtimes grant a derogation from \boxtimes to the \boxtimes time \boxtimes limits \boxtimes set out in the first and third subparagraphs \boxtimes of 24 hours and 120 hours above in \boxtimes one of the following \boxtimes cases where, in their judgement:

- (a) there is an overriding need to maintain energy supplies, ex
- (b) the \boxtimes combustion \boxtimes plant with the breakdown would be replaced for a limited period by another plant which would cause an overall increase in emissions.

◆ 2001/80/EC (adapted)

Article 3512

⋈ Monitoring of emissions into air **⋈**

1. Member States shall take the necessary measures to ensure \boxtimes that \boxtimes the monitoring \boxtimes of air polluting substances is carried out \boxtimes in accordance with Part 3 of Annex VVIII(A), of emissions from the combustion plants covered by this Directive and of all other values required for the implementation of this Directive. Member States may require that such monitoring shall be carried out at the operator's expense.

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new

- 2. The installation and functioning of the automated monitoring equipment shall be subject to control and to annual surveillance tests as set out in Part 3 of Annex V.
- 3. The competent authority shall determine the location of the sampling or measurement points to be used for monitoring of emissions.
- 4. All monitoring results shall be recorded, processed and presented in a way as to enable the competent authority to verify compliance with the operating conditions and emission limit values which are included in the permit.

▶ 2001/80/EC (adapted)

Article 36

 \boxtimes Compliance with emission limit values \boxtimes

The emission limit values for air shall be regarded as being complied with if the conditions set out in Part 4 of Annex V are fulfilled. ⊠

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EN

◆ 2001/80/EC (adapted)

◆ Council

Article 378

⋈ Multi-fuel firing combustion plants **⋈**

In the case of plants with a multi- \boxtimes fuel \boxtimes firing \boxtimes combustion plant \boxtimes unit involving the simultaneous use of two or more fuels, when granting the licence referred to in Articles 4(1) or 4(2), and in the case of such plants covered by Articles 4(3) or 10, the competent authority shall set the emission limit values \boxtimes in accordance with the following steps \boxtimes as follows:

- (a) firstly by taking \boxtimes take \boxtimes the emission limit value relevant for each individual fuel and pollutant corresponding to the rated thermal input of the \boxtimes entire \boxtimes combustion plant as \boxtimes set out \boxtimes given in Parts 1 and 2 of Annex \boxtimes VIII to VII,
- (b) secondly by determining \boxtimes determine \boxtimes fuel-weighted emission limit values, which are obtained by multiplying the above individual emission limit value \boxtimes referred to in point (a) \boxtimes by the thermal input delivered by each fuel, the product of multiplication being divided \boxtimes and dividing the product of multiplication \boxtimes by the sum of the thermal inputs delivered by all fuels,
- (c) thirdly by aggregating \boxtimes aggregate \boxtimes the fuel-weighted \boxtimes emissions \boxtimes limit values.

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new

⊃ Council

<u>[...]</u>C

▶ 2001/80/EC (adapted)

→₁ Corrigendum, OJ L 319, 23.11.2002,

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) firstly 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,

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- (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.
- (e) 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.
- 3. As an alternative to paragraph 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 Article 4(1) and (3): 1000 mg/Nm², averaged over all such plants within the refinery;
 - (b) for new plants referred to in Article 4(2): 600 mg/Nm², averaged over all such plants within the refinery, with the exception of gas turbines.

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

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4. In the case of plants with a multi-firing unit involving the alternative use of two or more fuels, when granting the licence referred to in Article 4(1) and (2), and in the ease of such plants covered by Articles 4(3) or 10, the emission limit values set out in Annexes III to VII corresponding to each fuel used shall be applied.

Article 11

In the ease of construction of combustion plants which are likely to have significant effects on the environment in another Member State, the Member States shall ensure that all appropriate information and consultation takes place, in accordance with Article 7 of Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment =

Article 13

Member States shall take appropriate measures to ensure that the operator informs the competent authorities within reasonable time limits about the results of the continuous measurements, the cheeking of the measuring equipment, the individual measurements and all other measurements carried out in order to assess compliance with this Directive.

Article 15

1. Member States shall, not later than 31 December 1990, inform the Commission of the programmes drawn up in accordance with Article 3(1).

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OJ L 175, 5.7.1985, p. 40. Directive as last amended by Council Directive 97/11/EC (OJ L 73, 14.3.1997, p. 5).

At the latest one year after the end of the different phases for reduction of emissions from existing plants, the Member States shall forward to the Commission a summary report on the results of the implementation of the programmes.

An intermediate report is required as well in the middle of each phase.

- 2. The reports referred to in paragraph 1 shall provide an overall view of:
 - (a) all the combustion plants covered by this Directive,
 - (b) emissions of sulphur dioxide, and oxides of nitrogen expressed in tonnes per annum and as concentrations of these substances in the waste gases,
 - (e) measures already taken or envisaged with a view to reducing emissions, and of changes in the choice of fuel used.
 - (d) changes in the method of operation already made or envisaged,
 - (e) definitive elosures of combustion plants already effected or envisaged, and
 - (f) where appropriate, the emission limit values imposed in the programmes in respect of existing plants.

When determining the annual emissions and concentrations of pollutants in the waste gases,

Member States shall take account of Articles 12, 13 and 14.

3. Member States applying Article 5 or the provisions of the Nota Bene in Annex III or the footnotes in Annex VI.A shall report thereon annually to the Commission.

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Article 17

- 1. Directive 88/609/EEC shall be repealed with effect from 27 November 2002, without prejudice to paragraph 2 or to the obligations of Member States concerning the time limits for transposition and application of that Directive listed in Annex IX hereto.
- 2. In the case of new plants licensed → 1 before 27 November 2002 as specified in Article 4(1) ← of this Directive, Article 4(1), Article 5(2), Article 6, Article 15(3), Annexes III, VI, VIII and point A.2 of Annex IX to Directive 88/609/EEC as amended by Directive 94/66/EC shall remain in effect until 1 January 2008 after which they shall be repealed.
- 3. References to Directive 88/609/EEC shall be construed as references to this Directive and shall be read in accordance with the correlation table in Annex X hereto.

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▶ 2000/76/EC (adapted)

Chapter IV

➣ Special provisions for waste incineration plants and waste coincineration plants **☒**

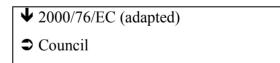
◆ 2000/76/EC (adapted)

Article 1

Objectives

The aim of this Directive is to prevent or to limit as far as practicable negative effects on the environment, in particular pollution by emissions into air, soil, surface water and groundwater, and the resulting risks to human health, from the incineration and co-incineration of waste.

This aim shall be met by means of stringent operational conditions and technical requirements, through setting emission limit values for waste incineration and co-incineration plants within the Community and also through meeting the requirements of Directive 75/442/EEC.



Article <u>382</u>

Scope

1. This <u>Directive Chapter</u> ⊗ shall apply to ⊗ covers ⊗ waste ⊗ incineration ⊗ plants ⊗ and ⊗ waste ⊗ co-incineration plants ⊗ which incinerate or co-incinerate solid or liquid waste. ⊗

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☐ If processes other than oxidation are applied for the thermal treatment of waste, the waste incineration plant or waste co-incineration plant shall include both the thermal treatment process and the subsequent incineration process. ☐

Article 3

Definitions

For the purposes of this $\underline{\underline{Chapter}}$ $\underline{\underline{\underline{Directive}}}$ \boxtimes waste incineration plants and waste co-incineration plants shall include \boxtimes

- 1. "waste" means any solid or liquid waste as defined in Article 1(a) of Directive 75/442/EEC;
- 2. "hazardous waste" means any solid or liquid waste as defined in Article 1(4) of Council Directive 91/689/EEC of 12 December 1991 on hazardous waste(19).

For the following hazardous wastes, the specific requirements for hazardous waste in this Directive shall not apply:

- (a) combustible liquid wastes including waste oils as defined in Article 1 of Council Directive 75/439/EEC of 16 June 1975 on the disposal of waste oils(20) provided that they meet the following criteria:
- (i) the mass content of polychlorinated aromatic hydrocarbons, e.g. polychlorinated biphenyls (PCB) or pentachlorinated phenol (PCP) amounts to concentrations not higher than those set out in the relevant Community legislation;
- (ii) these wastes are not rendered hazardous by virtue of containing other constituents listed in Annex II to Directive 91/689/EEC in quantities or in concentrations which are inconsistent with the achievement of the objectives set out in Article 4 of Directive 75/442/EEC; and
- (iii) the net calorific value amounts to at least 30 MJ per kilogramme,

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(b) any combustible liquid wastes which cannot cause, in the flue gas directly resulting from their combustion, emissions other than those from gasoil as defined in Article 1(1) of Directive 93/12/EEC(21) or a higher concentration of emissions than those resulting from the combustion of gasoil as so defined:

3. "mixed municipal waste" means waste from households as well as commercial, industrial and institutional waste, which because of its nature and composition is similar to waste from households, but excluding fractions indicated in the Annex to Decision 94/3/EC(22) under heading 20 01 that are collected separately at source and excluding the other wastes indicated under heading 20 02 of that Annex:

4. «incineration plant» means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of wastes with or without recovery of the combustion heat generated. This includes the incineration by oxidation of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes in so far as the substances resulting from the treatment are subsequently incinerated.

This definition covers the site and the entire incineration plant including all incineration lines \boxtimes or co-incineration lines \boxtimes , waste reception, storage, on site pretreatment facilities, waste-fuel and air-supply systems, boiler, facilities for the treatment of exhaust \boxtimes waste \boxtimes gases, on-site facilities for treatment or storage of residues and waste water, stack, devices and systems for controlling incineration \boxtimes or co-incineration \boxtimes operations, recording and monitoring incineration \boxtimes or co-incineration \boxtimes conditions:

5. « co incineration plant» means any stationary or mobile plant whose main purpose is the generation of energy or production of material products and: which uses wastes as a regular or additional fuel; or in which waste is thermally treated for the purpose of disposal.

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If $\underline{\underline{\mathbf{fff}}}$ co-incineration takes place in such a way that the main purpose of the plant is not the generation of energy or production of material products but rather the thermal treatment of waste, the plant shall be regarded as $\underline{\mathbf{an}} \boxtimes \mathbf{a}$ waste \boxtimes incineration plant. within the meaning of point 4;

This definition covers the site and the entire plant including all co-incineration lines, waste reception, storage, on site pretreatment facilities, waste-, fuel- and air-supply systems, boiler, facilities for the treatment of exhaust gases, on-site facilities for treatment or storage of residues and waste water, stack devices and systems for controlling incineration operations, recording and monitoring incineration conditions;

6. "existing eo-incineration or eo-incineration plant" means an incineration or eo-incineration plant:

- (a) which is in operation and has a permit in accordance with existing Community legislation before 28 December 2002, or,
- (b) which is authorised or registered for incineration or co-incineration and has a permit issued before 28 December 2002 in accordance with existing Community legislation, provided that the plant is put into operation not later than 28 December 2003, or
- (c) which, in the view of the competent authority, is the subject of a full request for a permit, before 28 December 2002, provided that the plant is put into operation not later than 28 December 2004;

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

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- 8. «emission» means the direct or indirect release of substances, vibrations, heat or noise from individual or diffuse sources in the plant into the air, water or soil;
- 9. «emission limit values» means the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during one or more periods of time:
- 10. «dioxins and furans» means all polyehlorinated dibenzo-p-dioxins and dibenzofurans listed in Annex I:
- 11. «operator» means any natural or legal person who operates or controls the plant or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the plant has been delegated:
- 12. «permit» means a written decision (or several such decisions) delivered by the competent authority granting authorisation to operate a plant, subject to certain conditions which guarantee that the plant complies with all the requirements of this Directive. A permit may cover one or more plants or parts of a plant on the same site operated by the same operator;
- 13. «residue» means any liquid or solid material (including bottom ash and slag, fly ash and boiler dust, solid reaction products from gas treatment, sewage sludge from the treatment of waste waters, spent catalysts and spent activated carbon) defined as waste in Article 1(a) of Directive 75/442/EEC, which is generated by the incineration or co-incineration process, the exhaust gas or waste water treatment or other processes within the incineration or co-incineration plant.

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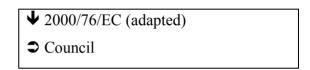
◆ 2000/76/EC Art. 2 (adapted)
⊃ Council

- 2. The following plants shall however be excluded from the scope of this Directive:

 This Chapter shall not apply to the following plants: **⋈**
 - plants treating only the following wastes: (a)
 - \boxtimes (i) waste listed in \bigcirc [...] \bigcirc Article 3 \bigcirc [...] \bigcirc \bigcirc (20)(b) \bigcirc , \boxtimes
 - (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) 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;
 - (v) cork waste;
 - (<u>iivi</u>) radioactive waste,

DG I

- (iiivii) animal carcasses as regulated by Directive 90/667/EEC without prejudice to its future amendments Regulation (EC) No 1774/2002 of the European Parliament and of the Council of 3 October 2002 laying down health rules concerning animal by-products not intended for human consumption¹:
- (ivviii) waste resulting from the exploration for, and the exploitation of, oil and gas resources from off-shore installations and incinerated on board the installations:
- experimental plants used for research, development and testing in order to improve the incineration process and which treat less than 50 tonnes of waste per year.



Article 394

Applications \boxtimes for \boxtimes and permits

1. Without prejudice to Article 11 of Directive 75/442/EEC or to Article 3 of Directive 91/689/EEC, no incineration or co incineration plant shall operate without a permit to carry out these activities.

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OJ L 273, 10.10.2002, p. 1.

- 2. Without prejudice to Directive 2008/1/EC, the \boxtimes An \boxtimes application for a permit for an \boxtimes a waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration plant to the competent authority shall include a description of the measures which are envisaged to guarantee that \boxtimes the following requirements are met \boxtimes :
- (a) the plant is designed, equipped and will be ⋈ maintained and ⋈ operated in such a manner that the requirements of this <u>Chapter Directive</u> are ⋈ met ⋈ taking into account the categories of waste to be incinerated ⋈ or co-incinerated ⋈;
- (b) the heat generated during the incineration and co-incineration process is recovered as far as practicable e.g. through eombined heat and power, the ⊠ generation ⊠ generating of process ⊠ heat ⊠, steam or ⊠ power ⊠ district heating;
- (c) the residues will be minimised in their amount and harmfulness and recycled where appropriate;
- (d) the disposal of the residues which cannot be prevented, reduced or recycled will be carried out in conformity with national and Community legislation.
- 3. The permit shall be granted only if the application shows that the proposed measurement techniques for emissions into the air comply with Annex III and, as regards water, comply with Annex III paragraphs 1 and 2.

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Article 40

➣ Permit conditions **☒**

14. The permit ≥ shall include the following ≥ granted by the competent authority for an incineration or co-incineration plant shall, in addition to complying with any applicable requirement laid down in Directives 91/271/EEC, 2008/1/EC, 96/62/EC, 76/464/EEC and 1999/31/EC:

- \boxtimes a \boxtimes list \boxtimes of all \boxtimes explicitly the \supset [...] \subset \supset types \subset of waste which may be (a) treated. The list shall use wing at least the [...] types of waste set ⊃ [...] C ⊃ out C in the <u>European Waste List established by Commission Decision</u> 2000/532/EC European Waste Catalogue (EWC), if possible \circ , if possible \circ , and contain \boxtimes containing \boxtimes information on the quantity of \boxtimes each \supset [...] \subset \supset type \subset of \boxtimes waste, where appropriate;
- include the total waste incinerating or co-incinerating capacity of the plant; (b)

◆ 2000/76/EC Art. 8(6) (adapted)

6. The permit shall:

- (<u>ca</u>) polluting substances referred to in Annex IV, in accordance with paragraph 2 and in order to meet the requirements referred to in paragraph 3(a);
- set operational control parameters for waste water at least the ☒ requirements ☒ for the $\left(\frac{db}{}\right)$ pH, temperature and flow ⋈ of waste water discharges; ⋈

EN

↓ 2000/76/EC (adapted)

<u>specify</u> the sampling and measurement procedures \boxtimes and frequencies \boxtimes used to satisfy the obligations imposed for periodic measurements of each air and water pollutants \boxtimes to be used to comply with the conditions set for emission monitoring \boxtimes :

Ψ 2000/76/EC Art. 13 (adapted)

<u>1.</u>The competent authority shall lay down in the permit the maximum permissible period of any technically unavoidable stoppages, disturbances, or failures of the purification devices or the measurement devices, during which the ⊠ emissions ⊠ eoneentrations in the discharges into the air and the purified waste water of the regulated substances ⊠ the discharges of waste water ⊠ may exceed the prescribed emission limit values.

▶ 2000/76/EC (adapted)

<u>25</u>. \boxtimes In addition to the requirements set out in paragraph 1, \boxtimes <u>the The</u> permit granted by the competent authority to an \boxtimes a waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration plant using hazardous waste shall \boxtimes include the following \boxtimes in addition to paragraph 4:

- (b) specify the minimum and maximum mass flows of those hazardous wastes, their lowest and maximum calorific values and their maximum contents of pollutants, e.g. PCB, PCP, chlorine, fluorine, sulphur, heavy metals ⋈ and other polluting substances ⋈.

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- <u>36</u>. Without prejudice to the provisions of the Treaty, Member States may list the categories of waste to be \boxtimes included \boxtimes mentioned in the permit which can be co-incinerated in \boxtimes certain \boxtimes defined categories of \boxtimes waste \boxtimes co-incineration plants.
- 7. Without prejudice to Directive 2008/1/EC, <u>4.</u> Thethe competent authority shall periodically reconsider and, where necessary, update permit conditions.
- 9. If an incineration or co-incineration plant does not comply with the conditions of the permit, in particular with the emission limit values for air and water, the competent authority shall take action to enforce compliance.

Article <u>41</u>₹

☒ Control of emissions **☒** Air emission limit values

◆ 2000/76/EC Art. 6(5) (adapted)

15. Incineration and co-incineration plants shall be designed, equipped, built and operated in such a way as to prevent emissions into the air giving rise to significant ground-level air pollution; in particular, exhaust \infty Waste \infty gases \infty from waste incineration plants and waste co-incineration plants \infty shall be discharged in a controlled \infty way \infty fashion and in conformity with relevant Community air quality standards by means of a stack the height of which is calculated in such a way as to safeguard human health and the environment.

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▶ 2000/76/EC (adapted)

<u>21</u>. Emissions to air from waste incineration plants and waste co-incineration plants shall not exceed the emission limit values set out in parts 3 and 4 of Annex VI or determined in accordance with part 4 of that Annex ⊠ <u>Incineration plants shall be designed, equipped, built and operated in such a way that the emission limit values set out in Annex V are not exceeded in the exhaust gas.</u>

2. Co incineration plants shall be designed, equipped, built and operated in such a way that the emission limit values determined according to or set out in Annex II are not exceeded in the exhaust gas.

If in a \boxtimes waste \boxtimes co-incineration plant more than 40 % of the resulting heat release comes from hazardous waste, \boxtimes or the plant co-incinerates untreated mixed municipal waste, \boxtimes the emission limit values set out in <u>Part 3 of Annex VI \veebar shall apply</u>.

3. The results of the measurements made to verify compliance with the emission limit values shall be standardised with respect to the conditions laid down in Article 11.

4. In the ease of co-incineration of untreated mixed municipal waste, the limit values will be determined according to Annex V, and Annex II will not apply.

5. Without prejudice to the provisions of the Treaty, Member States may set emission limit values for polycyclic aromatic hydrocarbons or other pollutants.

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Article 8

Water discharges from the cleaning of exhaust gases

- 1. Waste water from the cleaning of exhaust gases discharged from an incineration or coincineration plant shall be subject to a permit granted by the competent authorities.
- 3. Subject to a specific provision in the permit, the waste water from the cleaning of exhaust gases may be discharged to the aquatic environment after separate treatment on condition that:
- (a) the requirements of relevant Community, national and local provisions are complied with in the form of emission limit values; and
- (b) the mass concentrations of the polluting substances referred to in Annex IV do not exceed the emission limit values laid down therein.
- 4. The emission limit values shall apply at the point where waste waters from the cleaning of exhaust ⊠ waste ⊠ gases containing the polluting substances referred to in Annex IV are discharged from the ⊠ waste ⊠ incineration ⊠ plant ⊠ or ⊠ waste ⊠ co-incineration plant.

Where the waste water from the cleaning of exhaust gases is treated on site collectively with other on site sources of waste water, the operator shall take the measurements referred to in Article 11:

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

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

(e) at the point of final waste water discharge, after the treatment, from the incineration plant or coincineration plant.

The operator shall take appropriate mass balance calculations in order to determine the emission levels in the final waste water discharge that can be attributed to the waste water arising from the cleaning of exhaust gases in order to check compliance with the emission limit values set out in Annex IV for the waste water stream from the exhaust gas cleaning process.

Under no circumstances shall dilution of waste water take place for the purpose of complying with the emission limit values set in Annex IV.

 $\underline{\underline{\underline{5}}}$ When waste waters from the cleaning of exhaust \boxtimes waste \boxtimes gases containing the polluting substances referred to in Annex IV are treated outside the \boxtimes waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration plant at a treatment plant intended only for the treatment of this sort of waste water, the emission limit values $\underline{\underline{ef}} \boxtimes$ set out in \boxtimes Part 5 of Annex VI $\underline{\underline{FV}}$ are to be applied at the point where the waste waters leave the treatment plant. \boxtimes Where the waste water from the cleaning of waste gases is treated collectively with other sources of waste water, either on site or off site, \boxtimes

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If this off-site treatment plant is not only dedicated to treat waste water from incineration, the operator shall \boxtimes make \boxtimes take the appropriate mass balance calculations, \boxtimes using the results of the measurements set out \boxtimes as provided for \boxtimes in \boxtimes under paragraph 4(a), (b) and (c), \boxtimes point 2 of Part 6 of Annex VI \boxtimes in order to determine the emission levels in the final waste water discharge that can be attributed to the waste water arising from the cleaning of exhaust \boxtimes waste \boxtimes gases in order to check compliance with the emission limit values set out in Annex IV for the waste water stream from the exhaust gas cleaning process.

Under no circumstances shall dilution of waste water take place for the purpose of complying with the emission limit values set \boxtimes out \boxtimes in Part 5 of Annex VI \boxtimes .

 $\underline{57}$. \boxtimes Waste \boxtimes incineration \boxtimes plant sites \boxtimes and \boxtimes waste \boxtimes co-incineration plant sites, including associated storage areas for waste, shall be designed and \boxtimes operated \boxtimes in such a way as to prevent the unauthorised and accidental release of any polluting substances into soil, surface water and groundwater.

in accordance with the provisions provided for in relevant Community legislation. Moreover, \underline{Ss} torage capacity shall be provided for contaminated rainwater run-off from the \boxtimes waste \boxtimes incineration \boxtimes plant site \boxtimes or \boxtimes waste \boxtimes co-incineration plant site or for contaminated water arising from spillage or fire-fighting operations. The storage capacity shall be adequate to ensure that such waters can be tested and treated before discharge where necessary.

8. Without prejudice to the provisions of the Treaty, Member States may set emission limit values for polycyclic aromatic hydrocarbons or other pollutants.

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↓ 2000/76/EC Art. 13 (adapted)

<u>63</u>. Without prejudice to Article <u>6(3)(e)45(4)(c)</u>, the \boxtimes waste \boxtimes incineration plant or \boxtimes waste \boxtimes co-incineration plant or \boxtimes individual furnaces being part of a waste incineration plant or waste co-incineration plant \boxtimes incineration line shall under no circumstances continue to incinerate waste for a period of more than four hours uninterrupted where emission limit values are exceeded. incineration incinerate waste for a period of more than four hours uninterrupted where emission limit values are

<u>Thethe</u> cumulative duration of operation in such conditions over one year shall \boxtimes not exceed \boxtimes be less than 60 hours.

The \boxtimes time limit set out in the second subparagraph shall \boxtimes 60-hour duration applies \boxtimes apply \boxtimes to those \boxtimes furnaces \boxtimes lines of the entire plant which are linked to one single \boxtimes waste \boxtimes flue gas cleaning device.

▶ 2000/76/EC (adapted)

Article 4213

Abnormal operating conditions ⋈ Breakdown **⋈**

≧ In the case of a breakdown, the operator shall reduce or close down operations as soon as practicable until normal operations can be restored.

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◆ 2000/76/EC (adapted)

Article 4311

Measurement requirements ⊠ Monitoring of emissions ⊠

- 1. Member States shall, either by specification in the conditions of the permit or by general binding rules, ensure that ⊠ the monitoring of emissions is carried out in accordance with Parts 6 and 7 of Annex VI ⊠ paragraphs 2 to 12 and 17, as regards air, and paragraphs 9 and 14 to 17, as regards water, are complied with.
- 2. The following measurements of air pollutants shall be carried out in accordance with Annex III at the incineration and co-incineration plant:
- (a) continuous measurements of the following substances: NOx, provided that emission limit values are set, CO, total dust, TOC, HCl, HF, SO2;
- (b) continuous measurements of the following process operation parameters: temperature near the inner wall or at another representative point of the combustion chamber as authorised by the competent authority, concentration of oxygen, pressure, temperature and water vapour content of the exhaust gas;
- (e) at least two measurements per year of heavy metals, dioxins and furans; one measurement at least every three months shall however be carried out for the first 12 months of operation. Member States may fix measurement periods where they have set emission limit values for polyeyelic aromatic hydrocarbons or other pollutants.

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- 3. The residence time as well as the minimum temperature and the oxygen content of the exhaust gases shall be subject to appropriate verification, at least once when the incineration or coincineration plant is brought into service and under the most unfavourable operating conditions anticipated.
- 4. The continuous measurement of HF may be omitted if treatment stages for HCl are used which ensure that the emission limit value for HCl is not being exceeded. In this case the emissions of HF shall be subject to periodic measurements as laid down in paragraph 2(e).
- 5. The continuous measurement of the water vapour content shall not be required if the sampled exhaust gas is dried before the emissions are analysed.
- 6. Periodic measurements as laid down in paragraph 2(e) of HCl, HF and SO2 instead of continuous measuring may be authorised in the permit by the competent authority in incineration or co-incineration plants, if the operator can prove that the emissions of those pollutants can under no circumstances be higher than the prescribed emission limit values.
- 7. The reduction of the frequency of the periodic measurements for heavy metals from twice a year to once every two years and for dioxins and furans from twice a year to once every year may be authorised in the permit by the competent authority provided that the emissions resulting from coincineration or incineration are below 50 % of the emission limit values determined according to Annex II or Annex V respectively and provided that criteria for the requirements to be met, developed in accordance with the procedure laid down in Article 17, are available. These criteria shall at least be based on the provisions of the second subparagraph, points (a) and (d).

5381/3/09 REV 3 SJC/mko 114

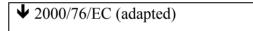
Until 1 January 2005 the reduction of the frequency may be authorised even if no such criteria are available provided that:

- (a) the waste to be co-incinerated or incinerated consists only of certain sorted combustible fractions of non-hazardous waste not suitable for recycling and presenting certain characteristics, and which is further specified on the basis of the assessment referred to in subparagraph (d);
- (b) national quality criteria, which have been reported to the Commission, are available for these wastes;
- (c) co-incineration and incineration of these wastes is in line with the relevant waste management plans referred to in Article 7 of Directive 75/442/EEC;
- (d) the operator can prove to the competent authority that the emissions are under all circumstances significantly below the emission limit values set out in Annex II or Annex V for heavy metals, dioxins and furans; this assessment shall be based on information on the quality of the waste concerned and measurements of the emissions of the said pollutants;
- (e) the quality criteria and the new period for the periodic measurements are specified in the permit;
- (f) all decisions on the frequency of measurements referred to in this paragraph, supplemented with information on the amount and quality of the waste concerned, shall be communicated on a yearly basis to the Commission.
- 8. The results of the measurements made to verify compliance with the emission limit values shall be standardised at the following conditions and for oxygen according to the formula as referred to in Annex VI:

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- (a) Temperature 273 K, pressure 101,3 kPa, 11 % oxygen, dry gas, in exhaust gas of incineration plants:
- (b) Temperature 273 K, pressure 101,3 kPa, 3 % oxygen, dry gas, in exhaust gas of incineration of waste oil as defined in Directive 75/439/EEC:
- (e) when the wastes are incinerated or co-incinerated in an oxygen-enriched atmosphere, the results of the measurements can be standardised at an oxygen content laid down by the competent authority reflecting the special circumstances of the individual case;
- (d) in the ease of co-incineration, the results of the measurements shall be standardised at a total oxygen content as calculated in Annex II.

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



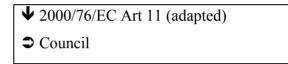
Article 10

Control and monitoring

- 1. Measurement equipment shall be installed and techniques used in order to monitor the parameters, conditions and mass concentrations relevant to the incineration or co-incineration process.
- 2. The measurement requirements shall be laid down in the permit or in the conditions attached to the permit issued by the competent authority.

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- <u>23</u>. The appropriate installation and the functioning of the automated ⋈ measuring systems ⋈ monitoring equipment for emissions into air and water shall be subject to control and to an annual surveillance test ⋈ tests as set out in point 1 of Part 6 of Annex VI. ⋈ Calibration has to be done by means of parallel measurements with the reference methods at least every three years.
- <u>34</u>. The \boxtimes competent authority shall determine the \boxtimes location of the sampling or measurement points \boxtimes to be used for monitoring of emissions \boxtimes shall be laid down by the competent authority.
- 5. Periodic measurements of the emissions into the air and water shall be carried out in accordance with Annex III, points 1 and 2.



- <u>49</u>. All \boxtimes monitoring \boxtimes measurement results shall be recorded, processed and presented in \boxtimes a way \boxtimes an appropriate fashion in order to enable the competent authorities \boxtimes authority \boxtimes to verify compliance with the permitted operating conditions and emission limit values \boxtimes which are included in the permit \boxtimes laid down in this Directive in accordance with procedures to be decided upon by those authorities.
- 10. The emission limit values for air shall be regarded as being complied with if:
- (a) none of the daily average values exceeds any of the emission limit values set out in Annex V(a) or Annex II;
- -97 % of the daily average value over the year does not exceed the emission limit value set out in Annex V(e) first indent;

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- (b) either none of the half-hourly average values exceeds any of the emission limit values set out in Annex V(b), column A or, where relevant, 97 % of the half-hourly average values over the year do not exceed any of the emission limit values set out in Annex V(b), column B;
- (e) none of the average values over the sample period set out for heavy metals and dioxins and furans exceeds the emission limit values set out in Annex V(e) and (d) or Annex II;
- (d) the provisions of Annex V(e), second indent or Annex II, are met.
- 11. The half-hourly average values and the 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-off periods if no waste is being incinerated) from the measured values after having subtracted the value of the confidence interval specified in point 3 of Annex III. The daily average values shall be determined from those validated average values.

To obtain a valid daily average value no more than five half hourly average values in any day shall be disearded due to malfunction or maintenance of the continuous measurement system. No more than ten daily average values per year shall be disearded due to malfunction or maintenance of the continuous measurement system.

12. The average values over the sample period and the average values in the case of periodical measurements of HF, HCl and SO2 shall be determined in accordance with the requirements of Article 10(2) and (4) and Annex III.

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513. □[...] □ □ As □ soon as appropriate measurement techniques are available within the Community, □[...] □ the date from which continuous measurements of the air emission
 E emissions to air of ☑ limit values for heavy metals and dioxins and furans shall be carried out
 □ shall be set. □ in accordance with Annex III.

↓ new→ Council

⊃[...] C ⊃ That measure C, designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 69(2).

◆ 2000/76/EC Art 11 (adapted)

Article 44

☒ Compliance with emission limit values **☒**

- $\underline{\underline{10}}$. The emission limit values for air \boxtimes and water \boxtimes shall be regarded as being complied with if \boxtimes the conditions described in Part 8 of Annex VI are fulfilled \boxtimes .
- 14. The following measurements shall be carried out at the point of waste water discharge:
- (a) continuous measurements of the parameters referred to in Article 8(6)(b);
- (b) spot sample daily measurements of total suspended solids; Member States may alternatively provide for measurements of a flow proportional representative sample over a period of 24 hours:

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- (e) at least monthly measurements of a flow proportional representative sample of the discharge over a period of 24 hours of the polluting substances referred to in Article 8(3) with respect to items 2 to 10 in Annex IV:
- (d) at least every six months measurements of dioxins and furans; however one measurement at least every three months shall be carried out for the first 12 months of operation. Member States may fix measurement periods where they have set emission limit values for polyeyelic aromatic hydrocarbons or other pollutants.
- 15. The monitoring of the mass of pollutants in the treated waste water shall be done in conformity with Community legislation and laid down in the permit as well as the frequency of the measurements.
- 16. The emission limit values for water shall be regarded as being complied with if:
- (a) for total suspended solids (polluting substance number 1), 95 % and 100 % of the measured values do not exceed the respective emission limit values as set out in Annex IV:
- (b) for heavy metals (polluting substances number 2 to 10) no more than one measurement per year exceeds the emission limit values set out in Annex IV; or, if the Member State provides for more than 20 samples per year, no more than 5 % of these samples exceed the emission limit values set out in Annex IV:
- (c) for dioxins and furans (polluting substance 11), the twice yearly measurements do not exceed the emission limit value set out in Annex IV.

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♦ 2000/76/EC (adapted)	
⇒ Council	

Article <u>456</u>

Operating conditions

1. \boxtimes Waste \boxtimes incineration plants shall be operated in \boxtimes a way so as \boxtimes to achieve a level of incineration such that the slag and bottom ashes total organic carbon (TOC) content \boxtimes of slag and bottom ashes \boxtimes is less than 3 % or their loss on ignition is less than 5 % of the dry weight of the material. If necessary, appropriate techniques of waste pre-treatment \boxtimes techniques \boxtimes shall be used.

<u>2.</u> \boxtimes Waste \boxtimes incineration plants \boxtimes \bigcirc $\boxed{...}$ \bigcirc \boxtimes shall be designed, equipped, built and operated in such a way that the gas resulting from \boxtimes the incineration \bigcirc $\boxed{...}$ of waste \boxtimes the process is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of \boxtimes at least \boxtimes 850 °C \boxtimes for at least two seconds. \boxtimes , as measured near the inner wall or at another representative point of the combustion chamber as authorised by the competent authority, for two seconds.

► Waste co-incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the co-incineration of waste is raised in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of at least 850 °C for at least two seconds.

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If hazardous waste with a content of more than 1 % of halogenated organic substances, expressed as chlorine, ⋈ is ⋈ are incinerated ⋈ or co-incinerated ⋈, the temperature ⋈ required to comply with the first ⊃ and second subparagraphs ⊂ ⊃ [...] ⊂ shall be at least 1100°C ⊠ has to be raised to 1 100 °C for at least two seconds.

☑ In waste incineration plants, the temperatures set out in the first and ⊃ [...] C ⊃ third C subparagraphs shall be measured near the inner wall of the combustion chamber. The competent authority may authorize the measurements at another representative point of the combustion chamber 🖾

3. Each ⊠ combustion chamber ⊠ line of the ⊠ a waste ⊠ incineration plant shall be equipped with at least one auxiliary burner. This burner ⊠ shall ⊠ must be switched on automatically when the temperature of the combustion gases after the last injection of combustion air falls below \(\sigma \) the temperatures set out in paragraph 2 \lequiv \frac{850 \circ C \text{ or } 1 \text{ 100 \circ C} \text{ as the case may be}. It shall also be used during plant start-up and shut-down operations in order to ensure that the ⋈ those ⋈ temperatures △ are △ of 850 °C or 1 100 °C as the case may be is maintained at all times during these operations and as long as unburned waste is in the combustion chamber.

During start-up and shut-down or when the temperature of the combustion gas falls below 850 °C or 1 100 °C as the ease may be, Thethe auxiliary burner shall not be fed with fuels which can cause higher emissions than those resulting from the burning of gasoil as defined in Article 1(1) of Council Directive 93/12/EECof 23 March 1993 relating to the sulphur content of certain liquid fuels¹ 5/716/EEC, liquefied gas or natural gas.

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OJ L 74, 27.3.1993, p. 81.

- 2. Co-incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the co-incineration of waste is raised in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of 850 °C for two seconds. If hazardous wastes with a content of more than 1 % of halogenated organic substances, expressed as chlorine, are co-incinerated, the temperature has to be raised to 1 100 °C.
- $\underline{43}$. \boxtimes Waste \boxtimes incineration \boxtimes plants \boxtimes and \boxtimes waste \boxtimes co-incineration plants shall have and operate an automatic system to prevent waste feed \boxtimes in the following situations \boxtimes :
- (a) at start-up, until the temperature ⋈ set out in paragraph 2 ⋈ of 850 °C or 1 100 °C as the ease may be or the temperature specified according to Article 46(1) paragraph 4 has been reached;
- whenever the temperature ≥ set out in paragraph 2 ≥ of 850 °C or 1 100 °C as the case may be or the temperature specified according to Article 46(1) paragraph 4 is not maintained;
- whenever the continuous measurements required by this Directive show that any emission limit value is exceeded due to disturbances or failures of the ⋈ waste gas cleaning ⋈ purification devices.
- <u>56</u>. Any heat generated by \boxtimes waste \boxtimes the incineration \boxtimes plants \boxtimes or \boxtimes waste \boxtimes the coincineration \boxtimes plants \boxtimes process shall be recovered as far as practicable.
- $\underline{67}$. Infectious clinical waste \boxtimes shall \boxtimes should be placed straight in the furnace, without first being mixed with other categories of waste and without direct handling.

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 $\underline{78}$. \boxtimes Member States shall ensure that the waste \boxtimes The management of the incineration \boxtimes plant \boxtimes or the \boxtimes waste \boxtimes co-incineration plant \boxtimes is operated and controlled by \boxtimes shall be in the hands of a natural person who is competent to manage the plant.

Article 46

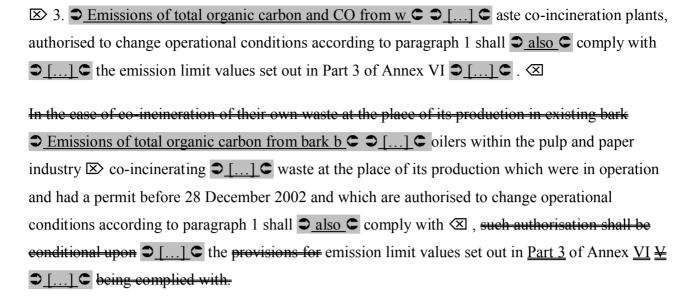
Authorisation to change operation conditions

<u>1.4.</u> Conditions different from those laid down in paragraphs 1, 2 and 3 of Article 45 and, as regards the temperature, paragraph $\underline{4}$ of that Article $\underline{3}$ and specified in the permit for certain categories of waste or for certain thermal processes may be authorised by the competent authority, provided the \boxtimes other \boxtimes requirements of this $\underline{\underline{Chapter}}$ $\underline{\underline{\underline{Directive}}}$ are met. Member States may lay down rules governing these authorisations.

 $\underline{2}$. \boxtimes For waste incineration plants, \boxtimes the the change of the operational conditions shall not cause more residues or residues with a higher content of organic pollutants \boxtimes polluting substances \boxtimes compared to those residues which could be expected under the conditions laid down in paragraphs 1, 2 and 3 of Article 45.

Conditions different from those laid down in paragraph 2 and, as regards the temperature, paragraph 3 and specified in the permit for certain categories of waste or for certain thermal processes may be authorised by the competent authority, provided the requirements of this Directive are met. Member States may lay down rules governing these authorisations. Such authorisation shall be conditional upon at least the provisions for emission limit values set out in Annex V for total organic carbon and CO being complied with.

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 \boxtimes 4. Member States shall communicate to the Commission \boxtimes <u>allAll</u> operating conditions \boxtimes authorised \boxtimes <u>determined</u> under <u>this paragraph-paragraphs 1, 2 and 3</u> and the results of verifications made <u>shall be communicated by the Member State to the Commission</u> as part of the information provided in accordance with the reporting requirements \boxtimes under Article 67 \boxtimes .

Article <u>475</u>

Delivery and reception of waste

1. The operator of the \boxtimes waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration plant shall take all necessary precautions concerning the delivery and reception of waste in order to prevent or to limit as far as practicable negative effects on the environment, in particular the pollution of air, soil, surface water and groundwater as well as \boxtimes other negative effects on the environment, \boxtimes odours and noise, and direct risks to human health. These measures shall meet at least the requirements set out in paragraphs 3 and 4.

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- 2. The operator shall determine the mass of each ⊃ [...] ⊂ ⊃ type ⊂ of waste, if possible ⊃ if possible ⊂ according to the European Waste List established by Commission Decision 2000/532/EC EWC, prior to accepting the waste at the ⊠ waste ⊠ incineration ⊠ plant ⊠ or ⊠ waste ⊠ co-incineration plant.
- 3. Prior to accepting hazardous waste at the \boxtimes waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration plant, the operator shall \boxtimes collect \boxtimes have available information about the waste for the purpose of verifying, *inter alia*, compliance with the permit requirements specified in Article 40(2) $\frac{4(5)}{(2)}$.

That This information shall cover

the following

:

- (a) all the administrative information on the generating process contained in the documents mentioned in paragraph 4(a);
- (b) the physical, and as far as practicable, chemical composition of the waste and all other information necessary to evaluate its suitability for the intended incineration process;
- (c) the hazardous characteristics of the waste, the substances with which it cannot be mixed, and the precautions to be taken in handling the waste.
- 4. Prior to accepting hazardous waste at the \boxtimes waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration plant, at least the following reception procedures shall be carried out by the operator:

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- the checking of those ⊠ the ⊠ documents required by Directive ⊠ 20../.../EC ⊠ (a) 91/689/EEC and, where applicable, those required by Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision, and control of shipments of waste within, into and out of the European Community and by \boxtimes legislation on transport of \boxtimes dangerous<u>-goods</u> transport regulations;
- (b) the taking of representative samples, unless inappropriate, e.g. for infectious clinical waste, as far as possible before unloading, to verify conformity with the information provided for in paragraph 3 by carrying out controls and to enable the competent authorities to identify the nature of the wastes treated.
 - These \boxtimes The \boxtimes samples \boxtimes referred to in point (b) \boxtimes shall be kept for at least one month after the incineration \boxtimes or co-incineration of the waste concerned \boxtimes .
- 5. The competent \(\sigma\) authorities may grant exemptions from paragraphs 2, 3 and 4 xi to waste incineration plants or waste co-incineration plants which are a part of an installation covered by Chapter II and only incinerate or co-incinerate waste generated within that installation \(\omega \) for industrial plants and undertakings incinerating or co-incinerating only their own waste at the place of generation of the waste provided that the requirements of this Directive are met.

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OJ L 30, 6.2.1993, p. 1.

Article 489

Residues

- 1. Residues resulting from the operation of the incineration or co-incineration plant shall be minimised in their amount and harmfulness. Residues shall be recycled, where appropriate, directly in the plant or outside in accordance with relevant Community legislation.
- 2. Transport and intermediate storage of dry residues in the form of dust, such as boiler dust and dry residues from the treatment of combustion gases, shall take place in such a way as to prevent dispersal ⊠ of those residues ⊠ in the environment e.g. in elosed containers.
- 3. Prior to determining the routes for the disposal or recycling of the residues from incineration and eo-incineration plants, appropriate tests shall be carried out to establish the physical and chemical characteristics and the polluting potential of the different incineration residues. The analysis ➤ Those tests < shall concern the total soluble fraction and heavy metals soluble fraction.

◆ 2000/76/EC Art. 4 (adapted)

Article 49

☒ Substantial change **☒**

8. Where the operator \boxtimes A change of operation \boxtimes of an \boxtimes a waste \boxtimes incineration \boxtimes plant \boxtimes or ⊠ a waste ⊠ co-incineration plant ⊠ treating only ⊠ for non-hazardous waste ⊠ in an installation covered by Chapter II \(\otimes \) is envisaging a change of operation which would involve ĭ involves ★ the incineration or co-incineration of hazardous waste, this shall be regarded as a substantial change within the meaning of Article 2(10)(b) of Directive 2008/1/EC and Article 12(2) of that Directive shall apply.

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Ψ	2000/76/EC	(adapted)
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Article 5012

Reporting and public information on waste incineration plants and waste co-incineration plants Access to information and public participation

- 1. Without prejudice to Council Directive 90/313/EEC⁺ and Directive 2008/1/EC. Applications for new permits for ⋈ waste ⋈ incineration ⋈ plants ⋈ and ⋈ waste ⋈ co-incineration plants shall be made available at one or more locations accessible to the public \(\sigma \) at one or more locations \(\subseteq \frac{\text{such as local authority offices}}{\text{for an appropriate period to enable } \(\subseteq \) the public \(\subseteq \) # to comment on \boxtimes the applications \boxtimes them before the competent authority reaches a decision. That decision, including at least a copy of the permit, and any subsequent updates, shall also be made available to the public.
- 2. For ⋈ waste ⋈ incineration ⋈ plants ⋈ or ⋈ waste ⋈ co-incineration plants with a nominal capacity of two tonnes or more per hour the report referred to in Article 67 shall include information ⊠ and notwithstanding Article 15(2) of Directive 2008/1/EC, an annual report to be provided by the operator to the competent authority on the functioning and monitoring of the plant \infty and give account of the running of the incineration or co-incineration process and the level of emissions into air and water in comparison with the emission limit values. That information shall be made available to the public. This report shall, as a minimum requirement, give an account of the running of the process and the emissions into air and water compared with the emission standards in this Directive.

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Council Directive 90/313/EEC of 7 June 1990 on the freedom of access to information on the environment (OJ L 158, 23.6.1990, p. 56). Directive as last amended by the Accession Act of 1994.

 $\underline{3}$. A list of \boxtimes waste \boxtimes incineration \boxtimes plants \boxtimes or \boxtimes waste \boxtimes co-incineration plants with a nominal capacity of less than two tonnes per hour shall be drawn up by the competent authority and shall be made available to the public.

▶ 2000/76/EC (adapted)

Article 14

Review clause

Without prejudice to Directive 2008/1/EC, the Commission shall submit a report to the European Parliament and the Council before 31 December 2008 based on experience of the application of this Directive, in particular for new plants, and on the progress achieved in emission control techniques and experience in waste management. Furthermore, the report shall be based on the development of the state of technology, of experience in the operation of the plants, of environmental requirements. This report will include a specific section on the application of Annex II.1.1 and in particular on the economic and technical feasibility for existing cement kilns as referred to in the footnote to Annex II.1.1 of respecting the NO_∞ emission limit value for new cement kilns set out in that Annex. The report shall, as appropriate, be accompanied by proposals for revision of the related provisions of this Directive. However, the Commission shall, if appropriate, propose an amendment for Annex II.3 before the said report, if major waste streams are directed to types of co-incineration plants other than those dealt with in Annex II.1 and II.2.

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Article 15

Reporting

The reports on the implementation of this Directive shall be established in accordance with the procedure laid down in Article 5 of Council Directive 91/692/EEC. The first report shall cover at least the first full three-year period after 28 December 2002 and comply with the periods referred to in Article 17 of Directive 94/67/EC and in Article 16(3) of Directive 2008/1/EC. To this effect, the Commission shall elaborate the appropriate questionnaire in due time

Article 16

Future adaptation of the directive

The Commission shall, in accordance with the procedure laid down in Article 17(2), amend Articles 10, 11 and 13 and Annexes I and III in order to adapt them to technical progress or new findings concerning the health benefits of emission reductions.

↓ 1999/13/EC (adapted)

⇒ Council

Chapter V

➣ Special provisions for installations and activities using organic solvents **☒**

Article 51↓

Purpose and Sscope

The purpose of this Directive is to prevent or reduce the direct and indirect effects of emissions of volatile organic compounds into the environment, mainly into air, and the potential risks to human health, by providing measures and procedures to be implemented for the activities defined in Annex I, in so far as they are operated above the solvent consumption thresholds listed in Annex IIA.

ĭ This chapter shall apply to activities listed in Part 1 of Annex VII and, where applicable, reaching the consumption thresholds set out in Part 2 of that Annex. ◀

Article 522

Definitions

For the purposes of this $\underline{\text{Directive}}$ Chapter \boxtimes , the following definitions shall apply \boxtimes :

1. installation shall mean a stationary technical unit where one or more activities falling within the scope defined in Article 1 are carried out, and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions;

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(1)2 'existing installation' ⊠ means ⊠ shall mean an installation in operation on 29 March

1999 © or, in accordance with legislation existing before the date on which this Directive is

brought into effect, an installation which is authorised or registered or, in the view of the competent authority, the subject of a full request for authorisation, provided that the installation is put into operation no later than one year after the date on which this Directive is brought into effect;

□ or □ which □ [...] □ □ was □ granted a permit □ or registered □ before 1 April 2001 or has submitted a complete application for a permit before 1 April 2001 provided that that installation was put in operation no later than 1 April 2002 ⊲ ;

3. small installation shall mean an installation which falls within the lower threshold band of items 1, 3, 4, 5, 8, 10, 13, 16 or 17 of Annex IIA or for the other activities of Annex IIA which have a solvent consumption of less than 10 tonnes/year:

4. substantial change

- for an installation falling within the scope of Directive 2008/1/EC, shall have the definition
 specified in that Directive.
- for a small installation, shall mean a change of the nominal capacity leading to an increase of emissions of volatile organic compounds of more than 25 %. Any change that may have, in the opinion of the competent authority, significant negative effects on human health or the environment is also a substantial change,

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for all other installations, shall mean a change of the nominal capacity leading to an increase of
emissions of volatile organic compounds of more than 10 %. Any change that may have, in the
opinion of the competent authority, significant negative effects on human health or the
environment is also a substantial change;

5. competent authority shall mean the authority or authorities or bodies responsible under the legal provisions of the Member States for earrying out the obligations arising from this Directive;

6. operator shall mean any natural or legal person who operates or controls the installation or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the installation has been delegated;

7. authorisation shall mean a written decision by which the competent authority grants permission to operate all or part of an installation;

8. registration shall mean a procedure, specified in a legal act, involving at least notification to the competent authority by the operator of the intention to operate an installation or activity falling within the scope of this Directive:

9. emission shall mean any discharge of volatile organic compounds from an installation into the environment:

<u>11.(2)</u> 'waste gases' \boxtimes means \boxtimes shall mean the final gaseous discharge containing volatile organic compounds or other pollutants_{$\overline{1}$} from a stack or abatement equipment into air; The volumetric flow rates shall be expressed in m²/h at standard conditions;

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 $\underline{40.(3)}$ 'fugitive emissions' \boxtimes means \boxtimes shall mean any emissions not in waste gases of volatile organic compounds into air, soil and water as well as, unless otherwise stated in Annex IIA, solvents contained in any products ⊠, unless otherwise stated in Part 2 of Annex VII ⊠. They include uncaptured emissions released to the outside environment via windows, doors, vents and similar openings;

 $\frac{12}{4}$ 'total emissions' \boxtimes means \boxtimes shall mean the sum of fugitive emissions and emissions in waste gases;

13. emission limit value shall mean the mass of volatile organic compounds, expressed in terms of certain specific parameters, concentration, percentage and/or level of an emission, calculated at standard conditions, N, which may not be exceeded during one or more periods of time;

14. substances shall mean any chemical element and its compounds, as they occur in the natural state or as produced by industry, whether in solid or liquid or gaseous form;

15.(5) preparation shall mean mixtures or solutions composed of two or more substances; 🖾 'mixture' means mixture as defined in paragraph 2 of Article 3 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH)¹, ⊠

16. organic compound shall mean any compound containing at least the element carbon and one or more of hydrogen, halogens, oxygen, sulphur, phosphorus, silicon or nitrogen, with the exception of earbon oxides and inorganic carbonates and bicarbonates;

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OJ L 136, 29.5.07, p. 33-280.

17. volatile organic compound (VOC) shall mean any organic compound having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use. For the purpose of this Directive, the fraction of crossote which exceeds this value of vapour pressure at 293,15 K shall be considered as a VOC;

18. organic solvent shall mean any VOC which is used alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials, or is used as a cleaning agent to dissolve contaminants, or as a dissolver, or as a dispersion medium, or as a viscosity adjuster, or as a surface tension adjuster, or a plasticiser, or as a preservative;

19. halogenated organic solvent shall mean an organic solvent which contains at least one atom of bromine, chlorine, fluorine or iodine per molecule;

20. coating shall mean any preparation, including all the organic solvents or preparations containing organic solvents necessary for its proper application, which is used to provide a decorative, protective or other functional effect on a surface;

(6)21. 'adhesive' \boxtimes means \boxtimes shall mean any preparation \boxtimes mixture \boxtimes , including all the organic solvents or preparations \boxtimes mixtures \boxtimes containing organic solvents necessary for its proper application, which is used to adhere separate parts of a product;

<u>(7)22.</u> 'ink' \boxtimes means \boxtimes shall mean a preparation \boxtimes mixture \boxtimes , including all the organic solvents or preparations \boxtimes mixtures \boxtimes containing organic solvents necessary for its proper application, which is used in a printing activity to impress text or images on to a surface;

(8)23. 'varnish' \boxtimes means \boxtimes shall mean a transparent coating;

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- <u>(9)24.</u> 'consumption' \boxtimes means \boxtimes shall mean the total input of organic solvents into an installation per calendar year, or any other 12-month period, less any <u>volatile organic</u> compounds VOCs that are recovered for reuse;
- (10)25 'input' \boxtimes means \boxtimes shall mean the quantity of organic solvents and their quantity in preparations \boxtimes mixtures \boxtimes used when carrying out an activity, including the solvents recycled inside and outside the installation, and which are counted every time they are used to carry out the activity;
- (11)26. 'reuse of organic solvents'

 means

 shall mean the use of organic solvents recovered from an installation for any technical or commercial purpose and including use as a fuel but excluding the final disposal of such recovered organic solvent as waste;
- 27. mass flow shall mean the quantity of VOCs released, in unit of mass/hour;
- 28. nominal capacity shall mean the maximum mass input of organic solvents by an installation averaged over one day, if the installation is operated under conditions of normal operation at its design output;
- 29. normal operation shall mean all periods of operation of an installation or activity except start up and shut down operations and maintenance of equipment:
- $\underline{30.(12)}$ contained conditions' \boxtimes means \boxtimes shall mean conditions under which an installation is operated \boxtimes so \boxtimes such that the <u>volatile organic compounds VOCs</u> released from the activity are collected and discharged in a controlled way either via a stack or abatement equipment and are therefore not entirely fugitive;

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- 31. standard conditions shall mean a temperature of 273,15 K and a pressure of 101,3 kPa;
- 32. average over 24 hours shall mean the arithmetic average of all valid readings taken during the 24-hour period of normal operation;

(13)33. start-up and shut-down operations \boxtimes means \boxtimes shall-mean operations \boxtimes excluding \boxtimes regularly oscillating activity phases are not to be considered as start-ups and shut-downs whilst bringing an activity, an equipment item or a tank into or out of service or into or out of an idling state.

Article 3

Obligations applying to new installations

Member States shall adopt the necessary measures to ensure that:

- 1. all new installations comply with Articles 5, 8 and 9;
- all new installations not covered by Directive 2008/1/EC are registered or undergo authorisation before being put into operation.

Article 4

Obligations applying to existing installations

Without prejudice to Directive 2008/1/EC, Member States shall adopt the necessary measures to ensure that:

- 1. existing installations comply with Articles 5, 8 and 9 no later than 31 October 2007;
- all existing installations must have been registered or authorised by 31 October 2007 at the latest;

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- 3. those installations to be authorised or registered using the reduction scheme of Annex IIB notify this to the competent authorities by 31 October 2005 at the latest;
- 4. where an installation:
 - undergoes a substantial change, or
 - comes within the scope of this Directive for the first time following a substantial change;

that part of the installation which undergoes the substantial change shall be treated either as a new installation or as an existing installation, provided that the total emissions of the whole installation do not exceed those that would have resulted had the substantially changed part been treated as a new installation.

▶ 1999/13/EC Art. 5(6) (adapted)

Article 53

☒ Substitution of hazardous substances **☒**

6. Substances or preparations \boxtimes mixtures \boxtimes which, because of their content of <u>volatile organic</u> compounds \square are \boxtimes classified as carcinogens, mutagens, or toxic to reproduction under \square Directive 67/548/EEC¹, are assigned or need to carry the risk phrases R45, R46, R49, R60 or R61, shall be replaced, as far as possible and by taking into account the guidance as mentioned in \square Article 7(1), by less harmful substances or preparations \square mixtures \square within the shortest possible time.

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OJ 196, 16.8.1967, p. 1. Directive as last amended by Commission Directive 98/98/EC (OJ L 355, 30.12.1998, p. 1).

↓ 1999/13/EC (adapted)	
⊃ Council	

Article 545

Requirements ⋈ Control of emissions **⋈**

1. Member States shall take the appropriate ⊠ necessary ⊠ measures ⊠ to ensure □ that each installation complies with □ either of the following: ⊲ ; either by specification in the conditions of the authorisation or by general binding rules to ensure that paragraphs 2 to 12 are complied with.

2. All installations shall comply with:

(a) either

the emission of volatile organic compounds from installations shall not exceed

the emission limit values in waste gases and the fugitive emission

limit

values, or the total emission limit values, and other requirements laid down in

HA Parts 2 and 3 of Annex VII

are complied with

;

or

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▶ 1999/13/EC Annex IIB.1 (adapted)

 \boxtimes Member States shall report to the Commission in accordance with Article 67(1) on the progress in achieving the equivalent emission reduction referred to in point (b). \boxtimes

◆ 1999/13/EC (adapted)

2.3.(a) \boxtimes By derogation from point (a) of paragraph 1, where the operator \boxtimes For fugitive emissions, Member States shall apply fugitive emission values to installations as an emission limit value. However, where it is demonstrated \boxtimes demonstrates \boxtimes to the satisfaction of the competent authority that for an individual installation this value \boxtimes the emission limit value for fugitive emissions \boxtimes is not technically and economically feasible, the competent authority can make an exception for such an individual installation \boxtimes may allow emissions to exceed that emission limit value \boxtimes provided that significant risks to human health or the environment are not to be expected. For each derogation, \boxtimes and that \boxtimes the operator must demonstrate \boxtimes demonstrates \boxtimes to the satisfaction of the competent authority that the best available technique is \boxtimes techniques are \boxtimes being used;

3. By derogation from paragraph 1, for coating activities covered by item 8 of the Table in Part 2 of Annex VII which cannot be carried out under contained conditions, the competent authority may allow the emissions of the installation not to comply with the requirements set out in that paragraph if the operator demonstrates to the competent authority that such compliance is not technically and economically feasible and that the best available techniques are being used.

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- 3.(b) activities which cannot be operated under contained conditions may be exempted from the controls of Annex IIA, when this possibility is explicitly mentioned in that Annex. The reduction scheme of Annex IIB is then to be used, unless it is demonstrated to the satisfaction of the competent authority that this option is not technically and economically feasible. In this case, the operator must demonstrate to the satisfaction of the competent authority that the best available technique is being used.
- 4. Member States shall report to the Commission on the derogation concerning

 in derogations referred to in
 in paragraphs (a)2 and (b)3 in accordance with Article 14 67(2).
- 4. For installations not using the reduction scheme, any abatement equipment installed after the date on which this Directive is brought into effect shall meet all the requirements of Annex IIA.
- 5. The \boxtimes emissions \boxtimes discharge of volatile organic compounds \underline{VOCs} referred to in paragraphs 6 and 8 \boxtimes which are assigned or need to carry the risk phrases R40, R45, R46, R49, R60, R61 or R68 \boxtimes shall be controlled as emissions from an installation under contained conditions as far as technically and economically feasible to safeguard public health and the environment \boxtimes and shall not exceed the emission limit values set out in Part 4 of Annex VII \boxtimes .
- <u>6.5.</u> Installations where two or more activities are carried out, each of which exceeds the thresholds in <u>Annex IIA</u> Part 2 of Annex VII shall:
- (a) as regards the substances specified in <u>paragraphs 6, 7 and 8 paragraph 5</u>, meet the requirements of <u>that paragraph those paragraphs</u> for each activity individually;

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- (b) as regards all other substances, either:
 - (i) meet the requirements of paragraph $\underline{12}$ for each activity individually; or
- 7. For discharges of the VOCs referred to in paragraph 6, where the mass flow of the sum of the compounds causing the labelling referred to in that paragraph is greater than, or equal to, 10 g/h, an emission limit value of 2 mg/Nm² shall be complied with. The emission limit value refers to the mass sum of the individual compounds.
- 8. For discharges of halogenated VOCs which are assigned the risk phrase R40, where the mass flow of the sum of the compounds eausing the labelling R40 is greater than, or equal to, 100 g/h, an emission limit value of 20 mg/Nm² shall be complied with. The emission limit value refers to the mass sum of the individual compounds.
- 9. Discharges of those VOCs which, after the entry into force of this Directive, are assigned or need to earry one of the risk phrases mentioned in paragraphs 6 and 8, shall have to comply with the emission limit values mentioned in paragraphs 7 and 8 respectively, within the shortest possible time.
- <u>7.10.</u> All appropriate precautions shall be taken to minimise emissions \boxtimes of volatile organic compounds \boxtimes during start-up and shut-down \boxtimes operations \boxtimes .

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- 11. Existing installations which operate existing abatement equipment and comply with the following emission limit values:
- 50 mg C/Nm² in the case of incineration,
- 150 mg C/Nm² in the case of any other abatement equipment,

shall be exempt from the waste gases emission limit values in the table in Annex IIA for a period of 12 years after the date referred to in Article 15, provided the total emissions of the whole installation do not exceed those that would have resulted had all the requirements of the table been met

- 12. Neither the reduction scheme nor the application of paragraph 11 nor Article 6 exempt installations discharging substances specified in paragraphs 6, 7 and 8 from fulfilling the requirements of those paragraphs.
- 13. Where a risk assessment is carried out in accordance with Council Regulation (EEC) No 793/93⁴ and Commission Regulation (EC) No 1488/94² or Council Directive 67/548/EEC and Commission Directive 93/67/EEC² of any of the substances causing the labelling R40, R60 or R61 which are controlled under this Directive, the Commission shall consider the conclusions of the risk assessment and shall take the necessary measures as appropriate.

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DG I EN

OJ L 84, 5.4.1993, p. 1.

OJ L 161, 29.6.1994, p. 3.

OJ L 227, 8.9.1993, p. 9.

↓ 1999/13/EC

Article 6

National plans

1. Without prejudice to Directive 2008/1/EC, Member States may define and implement national plans for reducing emissions from the activities and industrial installations covered by Article 1, excluding activities 4 and 11 of Annex IIA. None of the other activities may be excluded from the scope of this Directive by means of a national plan. These plans shall result in a reduction of the annual emissions of VOCs from existing installations covered by this Directive by at least the same amount and within the same time frame as would have been achieved by applying the emission limits under Article 5(2) and (3) and Annex II, during the validity period of the national plan. The national plan, if necessary updated, will be resubmitted to the Commission every three years.

A Member State which defines and implements national plans may exempt existing installations from implementation of the emission limit values laid down in Article 5(2) and (3) and Annex II. A national plan may under no circumstances exempt an existing installation from the provisions laid down in Directive 2008/1/EC.

2. A national plan shall include a list of the measures taken or to be taken to ensure that the aim specified in paragraph 1 will be achieved, including details of the proposed plan monitoring mechanism. It shall also include binding interim reduction targets against which progress towards the aim can be measured. It shall be compatible with the relevant existing Community legislation, including the relevant provisions of this Directive, and shall include:

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- an identification of the activity or activities to which the plan applies.
- the reduction in emissions to be achieved by those activities which corresponds to that which would have been achieved by applying the emission limits as specified in paragraph 1,
 - the number of installations affected by the plan and their total emissions and the total emission of each of the activities.

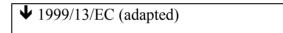
The plan shall also include a full description of the range of instruments through which its requirements will be achieved, evidence that these instruments will be enforceable and details of the means by which compliance with the plan will be demonstrated.

- 3. The Member State shall submit the plan to the Commission. The plan must be accompanied by supporting documentation sufficient to verify that the aim of paragraph 1 will be achieved, including any documentation specifically requested by the Commission. Existing installations undergoing a substantial change shall remain within the scope of the national plan, provided that they were part of this plan before undergoing such substantial change.
- 4. The Member State shall designate a national authority for the collection and evaluation of the information required by paragraph 3 and for the implementation of the national plan.
- (a) 5. The Commission shall inform the committee referred to in Article 13 of the criteria for assessing national plans, one year after the entry into force of this Directive at the latest.

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- (b) If the Commission, in considering the plan, the resubmitted plan, or in considering the progress reports submitted by the Member State under Article 11, is not satisfied that the objectives of the plan will be achieved within the prescribed period, it shall inform the Member State and the committee referred to in Article 13 of its opinion and of the reasons for reaching such an opinion. It shall do so within six months of receipt of the plan or report. The Member State shall then notify the Commission and inform the committee, within three months, of the corrective measures it will take in order to ensure that the objectives are achieved.
- 6. If the Commission decides within six months of the notification of the corrective measures that those measures are insufficient to ensure that the objective of the plan is achieved within the prescribed period, the Member State shall be obliged to satisfy the requirements of Article 5(2) and (3) and Annex II within the period specified in this Directive in the case of existing installations.

 The Commission shall inform the committee referred to in Article 13 of its decision.

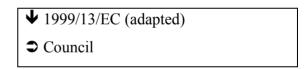


Monitoring **⋈** of emissions **⋈**

1. Member States shall introduce an obligation for the operator of an installation covered by this Directive to supply the competent authority once a year or on request with data that enables the competent authority to verify compliance with this Directive.

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- 2. Member States shall ensure that channels to which abatement equipment is connected, and which at the final point of discharge emit more than an average of 10 kg/h of total organic carbon, are monitored continuously for compliance.
- 3. In the other cases, Member States shall ensure that either continuous or periodic measurements are carried out. For periodic measurements at least three readings shall be obtained during each measurement exercise.
- 4. Measurements are not required in the ease where end-of-pipe abatement equipment is not needed to comply with this Directive.
- 5. The Commission shall organise an exchange of information on the use of solvent management plans in Member States based on the data for the implementation of this Directive in the three years following the date referred to in Article 15.
- ➤ Member States shall, either by specification in the conditions of the permit or by general binding rules, ensure that measurements of emissions are carried out in accordance with Part 6 of Annex VII 🖾



Article 569

Compliance with emission limit values

➤ The emission limit values in waste gases shall be regarded as being complied with if the conditions set out in Part 8 of Annex VII are fulfilled. <

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☒ Reporting on compliance **☒**

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- - (b) the requirements of the reduction scheme under Annex IIBPart 5 of Annex VII :
 - (c) the provisions of Article 5(3).

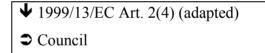
 ★ the derogations granted in accordance with paragraphs 2 and 3 of Article 54

 ★

Guidance is provided in Annex III on $\boxtimes \subseteq \underline{\text{This}} \subseteq \text{may}$ include a $\boxtimes \text{ solvent}$ management plans serving to demonstrate compliance with these parameters \boxtimes prepared in accordance with Part 7 of Annex VII \boxtimes .

Gas volumes may be added to the waste gas for cooling or dilution purposes where technically justified but shall not be considered when determining the mass concentration of the pollutant in the waste gas.

- 3. In the case of continuous measurements the emission limit values shall be considered to be complied with if:
- (a) none of the averages over 24 hours of normal operation exceeds the emission limit values, and
- (b) none of the hourly averages exceeds the emission limit values by more than a factor of 1.5.
- 4. In the case of periodic measurements the emission limit values shall be considered to be complied with if, in one monitoring exercise:
- (a) the average of all the readings does not exceed the emission limit values, and
- (b) none of the hourly averages exceeds the emission limit value by more than a factor of 1,5.
- 5. Compliance with the provisions of Article 5(7) and (8) shall be verified on the basis of the sum of the mass concentrations of the individual volatile organic compounds concerned. For all other cases, compliance shall be verified on the basis of the total mass of organic carbon emitted unless otherwise specified in Annex IIA.



<u> Article 58</u>

☒ Substantial change to existing installations **☒**

≥ 1. A change of the maximum mass input of organic solvents by an existing installation averaged over one day, if the installation is operated at its design output under conditions other than start-up and shut-down operations and maintenance of equipment, shall be considered as substantial if it leads to an increase of emissions of volatile organic compounds of more than: <

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- \boxtimes 10% for all other installations. \boxtimes

▶ 1999/13/EC Art. 4(4) (adapted)

<u>2.4.</u> <u>W</u>where an \boxtimes existing \boxtimes installation undergoes a substantial change, or eomes \boxtimes falls \boxtimes within the scope of this Directive for the first time following a substantial change, that part of the installation which undergoes the substantial change shall be treated either as a new installation or as an existing installation, provided that the total emissions of the whole installation do not exceed those that would have resulted had the substantially changed part been treated as a new installation.

◆ 1999/13/EC Art. 9(2) (adapted)

<u>3.2.</u> Following \boxtimes In case of \boxtimes a substantial change, \boxtimes the competent authority shall check \boxtimes compliance shall be reverified \boxtimes of the installation with the requirements of this Directive \boxtimes .

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▶ 1999/13/EC (adapted)

Article 59

 \pm The Commission shall ensure that \boxtimes organise \boxtimes an exchange of information between \boxtimes with the \boxtimes Member States and the activities concerned \boxtimes , the industry concerned and non-governmental organisations promoting environmental protection \boxtimes on the use of organic substances \boxtimes solvents \boxtimes and their potential substitutes takes place. It shall consider the questions of: \boxtimes and techniques which have the least potential effects on air, water, soil, ecosystems and human health \boxtimes

- ➤ The exchange of information shall be organized on all of the following: <
 - (a) fitness for use:=
 - (b) potential effects on human health and occupational exposure in particular;
 - (c) potential effects on the environment; and
 - (d) the economic consequences, in particular_₹ the costs and benefits of the options available.-

with a view to providing guidance on the use of substances and techniques which have the least potential effects on air, water, soil, ecosystems and human health.

Following the exchange of information, the Commission shall publish guidance for each activity.

2. Member States shall ensure that the guidance referred to in paragraph 1 is taken into account during authorisation and during the formulation of general binding rules.

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Non-compliance

Member States shall take appropriate measures to ensure that, if it is found that the requirements of this Directive have been breached:

(a) the operator informs the competent authority and takes measures to ensure that compliance is restored within the shortest possible time;

(b) in cases of non-compliance causing immediate danger to human health and as long as compliance is not restored under the conditions of paragraph (a), operation of the activity is suspended.

Article 11

Information systems and reporting

1. At intervals of three years, Member States shall send information to the Commission on the implementation of this Directive in the form of a report. The report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission in accordance with the procedure laid down in Article 6 of Directive 91/692/EEC[‡]. The questionnaire or outline shall be sent to the Member States six months before the start of the period covered by the report. The report shall be made to the Commission within nine months of the end of the three year period covered by it. Member States shall publish the reports produced at the same time as they are transmitted to the Commission, subject to the restrictions laid down in Article 3(2) and (3) of Directive 90/313/EEC². The first report shall cover the period of the first three years after the date referred to in Article 15.

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DG I EN

OJ L 377, 31.12.1991, p. 48.
OJ L 158, 23.6.1990, p. 56.

- 2. The information submitted under paragraph 1 shall, in particular, include sufficient representative data to demonstrate that the requirements of Article 5 and as the case may be, the requirements of Article 6 have been complied with.
- 3. The Commission shall draw up a report on the implementation of this Directive on the basis of the data provided by the Member States at the latest five years after the first reports are submitted by the Member States. The Commission shall submit this report to the European Parliament and the Council, accompanied by proposals if necessary.

Public Aaccess to information

1. Without prejudice to Directive 90/313/EEC, Member States shall take the necessary measures to ensure that at least applications for authorisation for new installations or for substantial changes of those installations requiring a permit under Directive 2008/1/EC are made available for an appropriate period of time to the public, to enable it to comment on them before the competent authority reaches a decision. Without prejudice to Directive 2008/1/EC, no obligation to reformat the information for the public is implied.

1. The decision of the competent authority, including at least a copy of the authorisation \boxtimes permit \boxtimes , and any subsequent updates, must also \boxtimes shall \boxtimes be made available to the public.

The general binding rules applicable for installations and the list of registered and authorised activities \boxtimes installations subject to permitting and registration \boxtimes shall be made available to the public.

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- 2. The results of \boxtimes the \boxtimes emission-monitoring \boxtimes of emissions \boxtimes as required under the authorisation or registration conditions referred to in <u>Articles 8 and 9 Article 55</u> and held by the competent authority must \boxtimes shall \boxtimes be made available to the public.
- 3. Paragraphs 1 and 2 shall apply, subject to the restrictions regarding grounds for refusal by public authorities to provide information, including commercial and industrial confidentiality, laid down in Article 3(2) and (3) of Directive 90/313/EEC. Article 4(1) and (2) of Directive 2003/4/EC.

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◆ 78/176/EEC (adapted)

Chapter VI

☒ Special provisions for installations producing titanium dioxide **☒**

Article 61

➣ Scope **☒**

ĭ This Chapter shall apply to installations producing titanium dioxide. ☒

Article 1

- 1. The aim of this Directive is the prevention and progressive reduction, with a view to its elimination, of pollution caused by waste from the titanium dioxide industry.
- 2. For the purpose of this Directive:
- (a) «pollution» means the discharge by man, directly or indirectly, of any residue from the titanium dioxide manufacturing process into the environment, the results of which are such as to eause hazards to human health, harm to living resources and to ecosystems, damage to amenities or interference with other legitimate uses of the environment concerned;
- (b) «waste» means:
 - any residue from the titanium dioxide manufacturing process of which the holder disposes or is obliged to dispose under current national legislation;
 - any residue from a treatment process of a residue referred to in the first indent;

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- «disposal» means:
 - the collection, sorting, transport and treatment of waste as well as its storage and tipping above ground or underground and its injection into the ground;
 - the discharge thereof into surface water, ground water and the sea, and dumping at sea;
 - the transformation operations necessary for its re-use, recovery or recycling;
- (d) «existing industrial establishments» means those industrial establishments already set up on the date of notification of this Directive;
- «new industrial establishments» means those industrial establishments which are in the (e) process of being set up on the date of entry into force of this Directive or which are set up after that date. Extensions to existing industrial establishments leading to an increase of 15 000 tonnes per year or more in the titanium dioxide on site production capacity of the establishment concerned shall be treated as new industrial establishments.

▼ 82/883/EEC

Article 1

This Directive lays down, pursuant to Article 7 (3) of Directive 78/176/EEC, the procedures for the surveillance and monitoring of the effects on the environment, having regard to its physical, chemical, biological and ecological aspects, of the discharge, dumping, storage on, tipping on or injection into the ground of waste from the titanium dioxide industry.

5381/3/09 REV 3 157 SJC/mko

For the purpose of this Directive:

«environments affected» means the water, the land surface and underground strata and the air in or into which waste from the titanium dioxide industry is discharged, dumped, stored, tipped or injected,

— «sampling point» means the point at which samples are taken.

Article 3

- 1. The parameters applicable for the surveillance and monitoring referred to in Article 1 are specified in the Annexes.
- 2. Where a parameter appears in the «mandatory determination» column in the Annexes, sampling and analysis of the samples must be carried out in respect of the environmental components indicated.
- 3. Where a parameter appears in the «optional determination» column in the Annexes, the Member States shall, if they consider it necessary, have the sampling and analysis of samples carried out for the environmental components indicated.

▶ 92/112/EEC

Article 1

This Directive lays down, as required by Article 9 (3) of Directive 78/176/EEC, procedures for harmonizing the programmes for the reduction and eventual elimination of pollution from existing industrial establishments and is intended to improve the conditions of competition in the titanium dioxide industry.

5381/3/09 REV 3 SJC/mko 158

1. For the purposes of this Directive: (a) where the sulphate process is used: - solid waste shall mean: - insoluble ore residues not broken down by sulphuric acid during the manufacturing process, -copperas, i. e. crystalline ferrous sulphate (FeSO47H2O), -strong acid waste shall mean: - the mother liquors arising from the filtration phase following hydrolysis of the titanyl sulphate solution. If these mother liquors are associated with weak acid wastes which overall contain more than 0.5 % free sulphuric acid and various heavy metals (3), the liquors and waste taken together shall be considered strong acid waste, -treatment waste shall mean: - filtration salts, sludges and liquid waste arising from the treatment (concentration or neutralization) of strong acid waste and containing various heavy metals, but not including neutralized and filtered or decanted waste containing only traces of heavy metals and which, before any dilution, has a pH value above 5,5, -weak acid waste shall mean: wash waters, cooling waters, condensates and other sludges and liquid wastes, other than those included in the above definitions, containing 0,5 % or less free sulphuric acid.

neutralized waste shall mean:

- any liquid which has a pH value over 5,5, contains only traces of heavy metals, and is obtained directly by filtration or decantation from strong or weak acid waste after its treatment to reduce its acidity and its heavy metal content, - dust shall mean: - all kinds of dust from production plants and in particular ore and pigment dust, - SOx shall mean: - gaseous sulphur dioxide and trioxide released in the various stages of the manufacturing and internal waste treatment processes, including acid droplets; (b) where the chlorine process is used: - solid waste shall mean: insoluble ore residues not broken down by the chlorine during the manufacturing process, -metal ehlorides and metal hydroxides (filtration substances), arising in solid form from the manufacture of titanium tetrachloride, -coke residues arising from the manufacture of titanium tetrachloride, strong acid waste shall mean: -waste containing more than 0.5 % free hydrochloric acid and various heavy metals (1); -treatment waste shall mean:

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- filtration salts, sludges and liquid waste arising from the treatment (concentration or neutralization) of strong acid waste and containing various heavy metals, but not including neutralized and filtered or decanted waste containing only traces of heavy metals and which, before any dilution, has a pH value over 5.5.
- weak acid waste shall mean:
- wash waters, cooling waters, condensates and other sludges and liquid wastes, other than those included in the above definitions, containing 0,5 % or less free hydrochloric acid,
- neutralized waste shall mean:
- any liquid which has a pH value over 5,5, contains only traces of heavy metals, and is obtained directly by filtration or decantation from strong or weak acid waste after its treatment to reduce its acidity and its heavy metal content,
- -dust shall mean:
- all kinds of dust from production plants and in particular ore, pigment and coke dust,
- chlorine shall mean:
- -gaseous chlorine released in the various stages of the manufacturing process;
- (c) where the sulphate process or the chlorine process is used
- -dumping shall mean:
- -any deliberate disposal into inland surface waters, internal coastal waters, territorial waters or the high seas of substances and materials by or from ships or aircraft (2)
- 2. The terms defined in Directive 78/176/EEC shall have the same meaning for the purposes of this Directive.

5381/3/09 REV 3 SJC/mko 161

▶ 92/112/EEC (adapted)

Article 624

☒ Prohibition of the disposal of waste **☒**

Member States shall ⋈ prohibit the disposal ⋈ take the necessary measures to ensure that discharges of ⋈ the following ⋈ waste into any inland surface waters, internal coastal waters, territorial waters and the high ⋈ water body, ⋈ sea ⋈ or ocean ⋈ are prohibited:

(<u>1a</u>) as regards solid waste; , strong acid waste and treatment waste from existing industrial establishments using the sulphate process:

- by 15 June 1993 in all the abovementioned waters;

(b) as regards solid waste and strong acid waste from existing industrial establishments using the chlorine process:

- by 15 June 1993 in all the abovementioned waters.

▶ 92/112/EEC Art. 2(1)a (adapted)

(2) the mother liquors arising from the filtration phase following hydrolysis of the titanyl sulphate solution \boxtimes from installations applying the sulphate process $\boxtimes \underline{:}$ If these mother liquors are associated with weak \boxtimes including the \boxtimes acid wastes \boxtimes waste associated with such liquors, containing overall more than 0.5% free sulphuric acid and various heavy metals, including acid waste \boxtimes which overall \boxtimes has been diluted until it contains \boxtimes contain more than 0.5% \boxtimes or less \boxtimes free sulphuric acid: and various heavy metals (3), the liquors and waste taken together shall be considered strong acid waste;

5381/3/09 REV 3 SJC/mko 162

☒ (3) waste from installations applying the chloride process containing more than 0.5 % free hydrochloric acid and various heavy metals, including such waste which has been diluted until it contains 0.5% or less free sulphuric acid; **☒**

(4) filtration salts, sludges and liquid waste arising from the treatment (concentration or neutralisation) of strong acid \boxtimes the \boxtimes waste \boxtimes mentioned under paragraphs (2) and (3) \boxtimes and containing various heavy metals, but not including neutralized and filtered or decanted waste containing only traces of heavy metals and which, before any dilution, has a pH value above 5,5.=

▼ 78/176/EEC

Article 2

Member States shall take the necessary measures to ensure that waste is disposed of without endangering human health and without harming the environment, and in particular:

without risk to water, air, soil and plants and animals;

without deleteriously affecting beauty-spots or the countryside.

Article 3

Member States shall take appropriate measures to encourage the prevention, recycling and processing of waste, the extraction of raw materials and any other process for the re-use of waste.

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EN

1. The discharge, dumping, storage, tipping and injection of waste are prohibited unless prior
authorization is issued by the competent authority of the Member State in whose territory the waste
is produced. Prior authorization must also be issued by the competent authority of the Member State
 in whose territory the waste is discharged, stored, tipped or injected;
— from whose territory it is discharged or dumped.
2. Authorization may be granted for a limited period only. It may be renewed.

Article 5

In the case of discharge or dumping, the competent authority may, in accordance with Article 2 and on the basis of the information supplied in accordance with Annex I, grant the authorization referred to in Article 4 provided that:

- (a) the waste cannot be disposed of by more appropriate means;
- (b) an assessment carried out in the light of available scientific and technical knowledge shows that there will be no deleterious effect, either immediate or delayed, on the aquatic environment;
- there is no deleterious effect on boating, fishing, leisure activities, the extraction of raw materials, desalination, fish and shellfish breeding, on regions of special scientife importance or on other legitimate uses of the waters in question.

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In the case of storage, tipping or injection, the competent authority may, in accordance with Article 2, and on the basis of the information supplied in accordance with Annex I, grant the authorization referred to in Article 4, provided that:

- the waste cannot be disposed of by more appropriate means;
- (b) an assessment earried out in the light of available scientific and technical knowledge shows that there will be no detrimental effect, either immediate or delayed, on underground waters, the soil or the atmosphere;
- there is no deleterious effect on leisure activities, the extraction of raw materials, plants, (c) animals, on regions of special scientific importance or on other legitimate uses of the environment in question.

▶ 92/112/EEC (adapted)

Article 3

The dumping of any solid waste, strong acid waste, treatment waste, weak acid waste, or neutralized waste, as referred to in Article 2 shall be prohibited with effect from 15 June 1993.

DG I

In the case of Member States which have serious technical and economic difficulties in complying with the date of application referred to in Article 4, the Commission may grant an extension, provided that a programme for the effective reduction of discharges of such waste is submitted to the Commission by 15 June 1993. That programme must result in a definitive ban on such discharges by 30 June 1993.

No later than three months after adoption of this Directive, the Commission shall be informed of any such cases and shall be consulted thereon. The Commission shall inform the other Member States.

Article 11

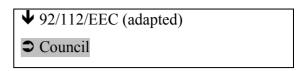
Member States shall take the measures necessary to ensure that all waste from the titanium dioxide industry, and in particular waste subject to prohibition on discharge or dumping into water or on discharge into the atmosphere is:

- avoided or reused where technically and economically feasible,

-reused or disposed of without endangering human health or harming the environment.

The same shall apply to waste arising from the reuse or treatment of the abovementioned waste.

5381/3/09 REV 3 SJC/mko 166



Article 636

☒ Control of emissions into water **☒**

Emissions from installations into water shall not exceed the emission limit values set out in Part 1 of Annex VIII

Member States shall take the necessary measures to ensure that discharges of waste are reduced in accordance with the following provisions:

- (a) from existing industrial establishments using the sulphate process:
- weak acid waste and neutralized waste shall be reduced by 31 December 1993 in all waters to a value of not more than 800 kg of total sulphate per tonne of titanium dioxide produced (i. e. corresponding to the SO4 ions contained in the free sulphuric acid and in the metallic sulphates);
- (b) from existing industrial establishments using the chlorine process:
- -weak acid waste, treatment waste and neutralized waste shall be reduced by 15 June 1993 in all waters to the following values of total chloride per tonne of titanium dioxide produced (i. e. corresponding to the C1 ions contained in the free hydrochloric acid and in the metallic chlorides):
- 130 kg using neutral rutile,
- 228 kg using synthetic rutile,
- 450 kg using slag.

In the case of an establishment using more than one type or ore, the values shall apply in proportion to the quantity of these ores used.

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EN

Except where inland surface waters are concerned, Member States may defer the date of application referred to in point (a) of Article 6 until 31 December 1994 at the latest if serious technico-ceonomic difficulties so require and provided that a programme of effective reduction of discharges of such waste is submitted to the Commission by 15 June 1993. Such a programme shall enable the following limit value per tonne of titanium dioxide produced to be reached by the date shown:

- weak acid waste and neutralized waste: 1 200 kg 15 June 1993,
- weak acid waste and neutralized waste: 800 kg 31 December 1994.

Three months at the latest following adoption of this Directive the Commission shall be informed of such cases, which shall be the subject of consultation with the Commission. The Commission shall inform the other Member States.

Article 8

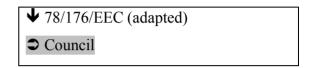
- 1. As regards the requirements of Article 6, Member States may choose to make use of quality objectives coupled with appropriate limit values applied in such a way that the effects in terms of protecting the environment and avoiding distortions of competition are equivalent to that of the limit values laid down in this Directive.
- 2. If a Member State chooses to make use of quality objectives, it shall present to the Commission a programme (1) demonstrating that the measures achieve an effect which, in terms of protecting the environment and avoiding distortion of competition, is equivalent to that of the limit values by the dates when these limit values are applied in accordance with Article 6.

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This programme shall be submitted to the Commission at least six months before the Member State proposes to apply the quality objectives.

This programme shall be assessed by the Commission in accordance with the procedures laid down in Article 10 of Directive 78/176/EEC.

The Commission shall inform the other Member States.



Article 8

- □[...] © ± The competent authority in the □[...] © concerned □[...] © ⊠ □[...] © ⊠ all appropriate steps to remedy one of the following situations and, if necessary, shall require the suspension of discharge, dumping, storage, tipping or injection operations:
- (a) if the results of the monitoring provided for in Annex II (A) (1) show that the conditions for the prior authorization referred to in Articles 4, 5 and 6 have not been fulfilled, or
- (b) if the results of the acute toxicity tests referred to in Annex II (A) (2) show that the limits laid down therein have been exceeded, or

♦ 82/883/EEC Art. 12 (adapted)

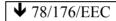
(c) if the results of the monitoring which the Member States are obliged to carry out on the environment concerned reveal a deterioration in the area under consideration, or

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◆ 78/176/EEC (adapted)

- (d) if discharge or dumping produces a deleterious effect on boating, fishing, leisure activities, the extraction of raw materials, desalination, fish and shellfish breeding, on regions of special scientific importance or on other legitimate uses of the waters in question, or
- (e) if storage, tipping or injection produces a deleterious effect on leisure activities, the extraction of raw materials, plants, animals, on regions of special scientific importance or on other legitimate uses of the environments in question.

2. If several Member States are concerned, the measures shall be taken after consultation.



→₁ 83/29/EEC Art. 1

Article 9

- 1. Member States shall draw up programmes for the progressive reduction and eventual elimination of pollution caused by waste from existing industrial establishments.
- 2. The programmes mentioned in paragraph 1 shall set general targets for the reduction of pollution from liquid, solid and gaseous waste, to be achieved by 1 July 1987 at the latest. The programmes shall also contain intermediate objectives. They shall, moreover, contain information on the state of the environment concerned, on measures for reducing pollution and on methods for treating waste that is directly caused by the manufacturing processes.

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- 3. → 1 By 1 July 1980 at the latest the programmes referred to in paragraph 1 shall be sent to the Commission, which, before 15 March 1983, shall submit suitable proposals to the Council ← for the harmonization of these programmes in regard to the reduction and eventual elimination of pollution and the improvement of the conditions of competition in the titanium dioxide industry. The Council shall act on these proposals within six months of the publication of the opinion of the European Parliament and that of the Economic and Social Committee in the Official Journal of the European Communities.
- 4. Member States shall introduce a programme by 1 January 1982 at the latest.

- 1. The programmes referred to in Article 9 (1) must cover all existing industrial establishments and must set out the measures to be taken in respect of each of them.
- 2. Where, in particular circumstances, a Member State considers that, in the case of an individual establishment, no additional measures are necessary to fulfil the requirements of this Directive, it shall, within six months of notification of this Directive, provide the Commission with the evidence which has led it to that conclusion.
- 3. After conducting any independent verification of the evidence that may be necessary, the Commission may agree with the Member State that it is not necessary to take additional measures in respect of the individual establishment concerned. The Commission must give its agreement, with reasons, within six months.
- 4. If the Commission does not agree with the Member State, additional measures in respect of that establishment shall be included in the programme of the Member State concerned.

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5. If the Commission does agree, its agreement will be periodically reviewed in the light of the results of the monitoring carried out pursuant to this Directive and in the light of any significant change in the manufacturing processes or in environmental policy objectives.

Article 11

New industrial establishments shall be subject to applications for prior authorization made to the competent authorities of the Member State on whose territory it is proposed to build the establishments. Such authorizations must be preceded by environmental impact surveys. They may be granted only to firms which give an undertaking to use only such of the materials, processes and techniques available on the market as are least damaging to the environment.

Article 12

Without prejudice to this Directive, Member States may adopt more stringent regulations.

▶ 92/112/EEC (adapted)

Article 649

> Prevention and control of emissions into air <

1.(iii) Member States shall require means to be installed for preventing Thethe emission of acid droplets

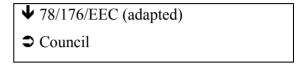
from the installations shall be prevented

;

\(\Bigsi \) 2. Emissions to air from the installations shall not exceed the emission limit values set out in Part 3 of Annex VIII. ✓

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Member States shall monitor the values and reductions specified in Articles 6, 8 and 9 in relation to the actual production of each establishment.



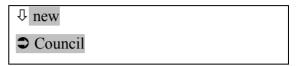
Article 765

⋈ Monitoring of emissions **□**[...] **□**

- 1. Irrespective of the method and extent of treatment of the waste in question, its discharge, dumping, storage, tipping and injection shall be accompanied by the monitoring referred to in Annex II of the waste and of the environment concerned having regard to its physical, chemical, biological and ecological aspects.
- 2. The monitoring operations shall be carried out periodically by one or more bodies appointed by the Member State the competent authority of which has issued the authorization provided for in Article 4. In the case of cross-frontier pollution between Member States, the body in question shall be appointed jointly by the parties concerned.
- 3. Within one year of notification of this Directive, the Commission shall submit to the Council a proposal on the procedures for the surveillance and monitoring of the environments concerned. The Council shall act on this proposal within six months of the publication of the opinion of the European Parliament and that of the Economic and Social Committee in the Official Journal of the European Communities.

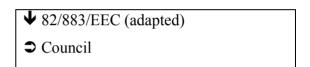
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- ≥ 1. Member States shall ensure the monitoring of emissions into water in order to enable the competent authority to verify compliance with the permit conditions and Article 63. <
- ≥ 2. Member States shall ensure the monitoring of emissions into air in order to enable the competent authority to verify compliance with the permit conditions and Article 64. <



Such monitoring shall include at least monitoring of emissions as set out in Part 5 of Annex





Article 4

- 31. Member States shall 🖾 ensure the 🖾 earry out surveillance and monitoring of the environments 🖾 environment 🖾 affected 🖾 by discharges of waste from installations producing titanium dioxide into water in accordance with Part 4 of Annex VIII. 🖾 and of a neighbouring zone deemed to be unaffected, special account being taken of local environmental factors and the manner of disposal, i.e. whether intermittent or continuous. Definition of Monitoring shall be carried out in accordance with CEN standards or, if CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality. \bigcirc
- 2. Except where otherwise specified in the Annexes, Member States shall determine on a case by case basis the exact sites from which samples are to be taken, the distance of these sites from the nearest pollutant disposal point and the depth or height at which the samples must be taken.

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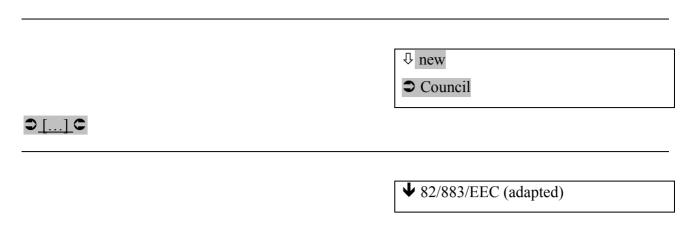
The samples must be taken at the same location and depth and under the same conditions in the course of successive sampling operations, for example in the case of tidal waters, at the same time in relation to high tide, tidal coefficient.

3. For the monitoring and inspection of the environments affected, Member States shall determine the frequency of sampling and analysis for each parameter listed in the Annexes.

For parameters where determination is mandatory, the frequency of sampling and analysis must not be less than the minimum frequencies indicated in the Annexes. However, once the behaviour, fate and effects of the waste have, as far as possible, been established, and provided there is no significant deterioration in the quality of the environment, Member States may provide for a frequency of sampling and analysis below these frequencies. Should there subsequently be any significant deterioration in the quality of the environment as a result of the waste or of any change in the disposal operation, the Member State shall revert to sampling and analysis at a frequency not less than that specified in the Annexes. If a Member State considers it necessary or advisable, it may distinguish between different parameters, applying this subparagraph to those parameters where no significant deterioration in the quality of the environment has been recorded.

4. For the monitoring and inspection of an appropriate neighbouring zone deemed to be unaffected, the laying down of the frequency of sampling and analysis shall be assessed by the Member States. When a Member State finds that it is not possible to identify such a neighbouring zone, it shall inform the Commission to that effect.

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1. The reference methods of measurement for determining the parametric values are specified in the Annexes. Laboratories using other methods must ensure that the results obtained are comparable.

2. The containers used to carry the samples, the agents or methods used to preserve a part sample with a view to analysis of one or more parameters, the transport and storage of samples and their preparation for analysis must be such that they do not significantly affect the analytical results.

Article 6

For the surveillance and monitoring of the environments affected, Member States may, at any time, lay down other parameters in addition to those laid down by this Directive.

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4	78/176/EEC

1. For the purposes of this Directive, Member States shall supply the Commission with all the necessary information relating to:

the authorizations issued pursuant to Articles 4, 5 and 6.

the results of the monitoring of the environment concerned carried out pursuant to Article

7,

the measures taken pursuant to Article 8.

They shall also supply the Commission with general information concerning the materials, processes and techniques notified to them pursuant to Article 11.

- 2. Information acquired as a result of the application of this Article may be used only for the purposes of this Directive.
- 3. The Commission and the competent authorities of the Member States, their officials and other servants shall not disclose information acquired by them pursuant to this Directive and of a kind covered by the obligation of professional secrecy.
- 4. Paragraphs 2 and 3 shall not prevent publication of general information or surveys which do not contain information relating to particular undertakings or associations of undertakings.

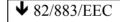
5381/3/09 REV 3 SJC/mko 177 DG I

▶ 91/692/EEC Art. 2(1) and Annex I.b

At intervals of three years the Member States shall send information to the Commission on the implementation of this Directive, in the form of a sectoral report which shall also cover other pertinent Community Directives. This report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission in accordance with the procedure laid down in Article 6 of Directive 91/692/EEC[‡]. The questionaire or outline shall be sent to the Member States six months before the start of the period covered by the report. The report shall be sent to the Commission within nine months of the end of the three-year period covered by it.

The first report shall cover the period from 1993 to 1995 inclusive.

The Commission shall publish a Community report on the implementation of the Directive within nine months of receiving the reports from the Member States.



Article 7

1. The report which the Member States are required to forward to the Commission pursuant to Article 14 of Directive 78/176/EEC shall contain details of the surveillance and monitoring operations carried out by the bodies appointed in accordance with Article 7 (2) of that Directive. These details shall, in respect of each environment affected, include the following information:

OJ No L 377, 31, 12, 1991, p. 48.

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- a description of the sampling point, including its permanent features, which may be coded, and other administrative and geographical information. This information shall be provided only once when the sampling point is designated.
- a description of the sampling methods used,
- the results of the measurements of the parameters whose determination is mandatory and,
 where Member States consider it useful, also those of parameters whose determination is optional,
- the methods of measurement and analysis used and, where appropriate, their limit of detection, accuracy and precision,
- changes, adopted in accordance with Article 4 (3), in the frequency of sampling and analysis.
- 2. The first set of data to be communicated pursuant to paragraph 1 shall be that gathered during the third year following notification of this Directive.
- 3. The Commission shall, with the prior agreement of the Member State concerned, publish a summary of the information supplied to it.
- 4. The Commission shall assess the effectiveness of the procedure for the surveillance and monitoring of the environments affected and shall—no later than six years after notification of this Directive—place before the Council, if appropriate, proposals to improve this procedure and, if necessary, to harmonize the methods of measurement including their limit of detection, accuracy and precision and the sampling methods.

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Member States may derogate from this Directive in the event of flooding or natural disaster or on account of exceptional weather conditions.

Article 9

The requisite amendments to adapt the contents of the Annexes as regards:

parameters listed in the «optional determination» column,

reference methods of measurement.

to scientific and technical progress shall be adopted in accordance with the procedure laid down in Article 11.

Article 13

Where waste elimination requires that, in accordance with Article 4 (1) of Directive 78/176/EEC, the competent authorities of more than one Member State should issue prior authorizations, the Member States involved shall consult each other on the content and the implementation of the monitoring programme.

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DG I

◆ 96/61/EC (adapted)	

Chapter VII

☒ Committee, transitional and final provisions **☒**

new		
⊃ Council		

Article 66

Competent authorities

Member States shall designate the competent authorities ⊃ [...] ⊂ responsible for carrying out the obligations arising from this Directive.

Article 67

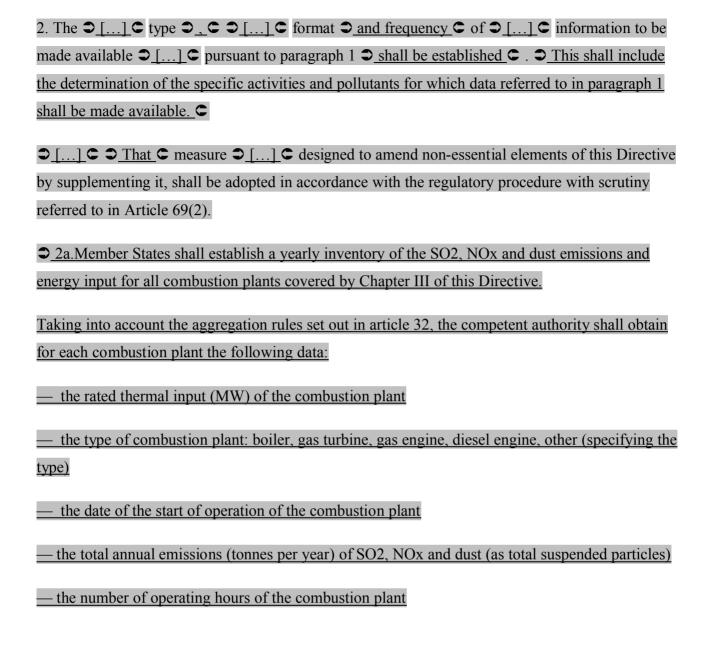
Reporting by Member States

1. Member States shall ensure that information is made available to the Commission on the implementation of this Directive, $\supset [...] \subset \supset$ on representative \subset data on $\supset [...] \subset$ emissions and other environmental effects, on emission limit values \bigcirc , \bigcirc \bigcirc [...] \bigcirc on the application of best available techniques in accordance with Articles 15 and 16 and on progress made concerning the development and application of emerging techniques in accordance with Article <u>30</u> C.

Member States shall **೨**[...] **C** make available in an electronic format the information referred to in the first subparagraph.

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EN DG I



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— 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).

The yearly plant-by-plant data contained in these inventories shall be made available to the Commission upon request.

A summary of the inventories shall be made available to the Commission every three years within twelve months from the end of the three-year period considered. This summary shall show separately the data for combustion plants within refineries.

The Commission shall make available to the Member States and to the public a summary of the comparison and evaluation of these inventories within 24 months from the end of the three-year period considered.

2b). Member States shall establish a yearly inventory of the SO2, NOx and dust emissions and energy input for all combustion plants covered by Chapter III of this Directive.

Taking into account the aggregation rules set out in article 32, the competent authority shall obtain for each combustion plant the following data:

- the rated thermal input (MW) of the combustion plant
- the type of combustion plant: boiler, gas turbine, gas engine, diesel engine, other (specifying the type)
- the date of the start of operation of the combustion plant
- the total annual emissions (tonnes per year) of SO2, NOx and dust (as total suspended particles)
- the number of operating hours of the combustion plant

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— 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).

The yearly plant-by-plant data contained in these inventories shall be made available to the Commission upon request.

A summary of the inventories shall be made available to the Commission every three years within twelve months from the end of the three-year period considered. This summary shall show separately the data for combustion plants within refineries.

The Commission shall make available to the Member States and to the public a summary of the comparison and evaluation of these inventories within 24 months from the end of the three-year period considered.

- 3. Within 3 years of the date referred to in Article 71(1), and every three years thereafter, the Commission shall submit to the European Parliament and the Council a report on the implementation of this Directive on the basis of the information referred to in paragraph 1 accompanied by a legislative proposal where appropriate.
- ◆ 4. The Commission shall, by 31 December 2012, review the need to control emissions from:
 (a) the combustion of fuels in installations with a total rated thermal input below 50 MW; and
 (b) the spreading of manure.

It shall report the results of that review to the European Parliament and to the Council accompanied, if appropriate, by a legislative proposal.

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Amendments of Annexes

On the basis of best available techniques \bigcirc , \bigcirc \bigcirc Parts 3 and 4 of Annex V, Parts 1, 2, 6, 7 and 8 of Annex VI \supset [...] \subset \supset and \subset Parts \supset [...] \subset 5, 6, 7 and 8 of Annex VII \supset [...] \subset **⊃** <u>shall be adapted</u> **C** to scientific and technical progress.

Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 69(2).

♦ 82/883/EEC

Article 10

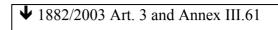
1. A committee on adaptation to technical progress (hereinafter referred to as «the committee»), eonsisting of representatives of the Member States and chaired by a Commission representative, is hereby set up.

♦ 807/2003 Art. 3 and Annex III.34

Article 11

1. The Commission shall be assisted by the committee on adaptation to technical progress.

EN



Article 1969

Committee-procedure

▶ 1882/2003 Art. 1 and Annex I.17, and Art. 3 and Annex III.61

1. The Commission shall be assisted by a committee.

↓ 2000/76/EC

Article 17

Regulatory committee

- 1. The Commission shall be assisted by a regulatory committee.
- 2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

▶ 807/2003 Art. 3 and Annex III.34

2. Where reference is made to this Article, Articles 5 and 7 of Decision 1999/468/EC[‡] shall apply.

OJ L 184, 17.7.1999, p. 23.

5381/3/09 REV 3 186 SJC/mko EN DG I

▶ 1882/2003 Art. 1 and Annex I.17, and Art. 3 and Annex III.61

2. Where reference is made to this Article, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

> **▶** 807/2003 Art. 3 and Annex III.34, 1882/2003 Art. 3 and Annex III.61, 2000/76/EC Art. 17

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

♦ 807/2003 Art. 3 and Annex III.34, 1882/2003 Art. 1 and Annex I.17, and Art. 3 and Annex III.61

3. The Committee shall adopt its rules of procedure.

◆ 2000/76/EC Art. 17

3. The committee shall adopt its own rules of procedure.

Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (OJ L 184, 17.7.1999, p. 23).

5381/3/09 REV 3 EN DG I

□ new

2. Where reference is made to this paragraph, Articles 5a (1) to (4), and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

▶ 1999/13/EC Art. 14 (adapted)

Article 14

Sanctions

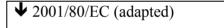
Member States shall determine the sanctions applicable to breaches of the national provisions adopted pursuant to this Directive and shall take all necessary measures for their implementation. The sanctions determined must be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by the date mentioned in Article 15, and shall notify any subsequent modification of them as soon as possible.

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Penalties

The Member States shall determine penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive. The Member States shall notify those provisions to the Commission by 28 December 2002 at the latest and shall notify it without delay of any subsequent amendment affecting them.



Article 16

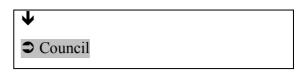
The Member States shall determine the penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive.

5381/3/09 REV 3 SJC/mko 189

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❖	new			

Penalties

Member States shall determine penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by [day/month/year (e.g. 1 January 2011)] at the latest and shall notify it without delay of any subsequent amendment affecting them.



Transposition

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with Articles 2, 3(4), 3(14)-(18), 4(2), 5, 6, 8(1), 9(2) b), 12(8), 13(1) e), 14, 15(1) d), 15(3)-(5), 16(2)-(5), 17, 18 (2)-(4), 22(2)-(3), 22(4) b) and d), 23, 24, 25, 26 (1) d), 26(2), 26(3) c)-g), 29 a)-b), 30, 32, 33(3), 35(2)-(4), 36, 37(2), 43(5), 65(2), 65(4), 66-67 and 70, and Annexes points 1.1, 2.5(c), 3.5, 4.7, 5.2, 5.3, 6.1(c), 6.4(b), 6.6, 6.9, 6.10 of Annex I, point 1(b) of Annex IV, Parts 1-4 of Annex V, point b) of Part 1, points 2.2, 3.1 and 3.2 of Part 4, points 2.5 and 2.6 of Part 6 of Annex VI, point 3 of Part 7 of Annex VII, point 1 and 2(c) of Part 1 and points 2-3 of Part 3 of Annex VIII by [\bigcirc [...] \bigcirc \bigcirc 2 \bigcirc years after the entry into force)] at the latest.

⊃ [...] **C**

They shall apply those provisions from [day/month/year (eg 30 June 2012 ie 1.5 years after the entry into force)]. When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

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EN

Repeal

- 1. Directives 78/176/EEC, 82/883/EEC, 92/112/EEC, 2008/1/EC, 1999/13/EC and 2000/76/EC, as amended by the acts listed in Annex IX, Part A are repealed with effect from [day/month/year (e.g. 1 January 2014 ie 3 years after entry into force)], without prejudice to the obligations of the Member States relating to the time-limits for transposition into national law and application of the Directives set out in Annex IX, Part B.
- 2. Directive 2001/80/EC as amended by the acts listed in Annex IX, Part A is repealed with effect from 1 January 2016, without prejudice to the obligations of the Member States relating to the time-limits for transposition into national law and application of the Directives set out in Annex IX, Part B.
- 3. References to the repealed Directives shall be construed as references to this Directive and shall be read in accordance with the correlation table in Annex X.

new		
⊃ Council		

Transitional provisions

1. In relation to installations referred to in Annex I, in points 1.2, 1.3, 1.4, 2.1 to 2.4, points (a) and (b) of point 2.5, points 2.6, 3, 4.1 to 4.6, 5.1, 5.2, points (a) and (b) of point 5.3, point 5.4, points (a) and (b) of point 6.1, points 6.2 to 6.5, points (b) and (c) of point 6.6, points 6.7 and 6.8 as well as installations referred to in point 1.1 with a rated thermal input of 50 MW or more and installations referred to in point (a) of point 6.6 with more than 40 000 places for poultry and which are in operation and hold a permit or which have submitted a complete application for a permit before the date referred to in Article 71(1), provided that those installations are put into operation no later than one year after that date, Member States shall apply the laws, regulations and administrative provisions adopted in accordance with Article 71(1) from [day/month/year (eg 1 January 2014 ie 3 years after entry into force) \bigcirc with the exception of the provisions of Chapter III and Annex V.

2. In relation to installations referred to in Annex I, in point (c) of point 2.5, points (e), (d) and (e) of point 5.3, point (c) of point 6.1, points 6.9 and 6.10 as well as installations referred to in point 1.1 with a rated thermal input below 50 MW and installations referred to in point (a) of point 6.6 with less than 40 000 places for poultry and which are in operation before the date referred to in Article 71(1), Member States shall apply the laws, regulations and administrative provisions adopted in accordance with Article 71(1) from [day/month/year (eg 1 July 2015 ie 4.5 years after entry into force).

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3. In relation to combustion plants covered by Chapter III, Member States shall apply \bigcirc from 1 January 2016 C the laws, regulations and administrative provisions adopted in accordance with Article 71(1) ⊃ to comply with the provisions of Chapter III and Annex V ⊂ ⊃[...] ⊂.

4. In relation to combustion plants which co-incinerate waste, point 3.1 of Part 4 of Annex VI shall apply until 31 December 2015.

However, as from 1 January 2016 point 3.2 of Part 4 of Annex VI shall apply in relation to those plants.



Article 74

Entry into force

This Directive shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

DG I

Addressees

This Directive is addressed to the Member States.

Done at Brussels, [...]

For the European Parliament
The President

[...]

For the Council

The President

[...]

♦ 96/61/EC (adapted)	
⊃ Council	

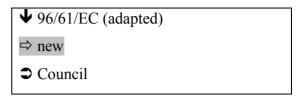
ANNEX I

Categories of \bigcirc <u>activities</u> referred to in Article $\underline{\underline{+}}$ $\underline{\underline{11}}$

1. Installations or parts of installations used for research, development and testing of new products
and processes are not covered by this Directive.
The threshold values given below generally refer to production capacities or outputs. Where one
operator carries out several activities falling under the same subheading
the capacities of such activities are added together. For waste management activities, this
calculation shall apply at the level of activities 5.1 and 5.3.

new

⊃[...]C



- 1. Energy industries
- 1.1 Combustion \boxtimes of fuels in \boxtimes installations with a \boxtimes total \boxtimes rated thermal input exceeding 50 MW ($^{\pm}$) \Rightarrow of \bigcirc [...] \bigcirc \bigcirc 50 \bigcirc MW or more \bigcirc
- 1.2. \boxtimes Refining of \boxtimes $\underline{\mathbf{m}}$ ineral oil and gas refineries
- 1.3. \boxtimes Production of \boxtimes <u>cC</u>oke ovens
- 1.4. Coal Gasification \boxtimes or \boxtimes and liquefaction \boxtimes of \bigcirc [...] \bigcirc \boxtimes plants \bigcirc :
- (a) coal;
- (b) other solid or liquid materials in installations with a total rated thermal input of 5 MW or more.
- 2. Production and processing of metals
- 2.1. Metal ore (including sulphide ore) roasting or sintering installations
- 2.2. <u>Installations for the Production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2,5 tonnes per hour</u>

2.3.	Installations f	or the	Processing	of ferrous	metals:
	11100001100101101	01 0110		01 1011000	

- (a) ⊠ operation of ⊠ hot-rolling mills with a capacity exceeding 20 tonnes of crude steel per hour:
- (b) ⊠ operation of ⊠ smitheries with hammers the energy of which exceeds 50 kilojoule per hammer, where the calorific power used exceeds 20 MW;
- (c) application of protective fused metal coats with an input exceeding 2 tonnes of crude steel per hour.
- 2.4. \boxtimes Operation of \boxtimes $\underline{\mathbb{E}}$ errous metal foundries with a \bigcirc $\underline{\mathbb{E}}$ melting \square capacity exceeding 20 tonnes \boxtimes \bigcirc $\underline{\mathbb{E}}$ per day
- 2.5.

 ☑ Processing of non-ferrous metals: ☑ Installations
 - (a) for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes:
 - (b) for the smelting ⋈ melting ⋈ including the alloyage, of non-ferrous metals, including recovered products and operation of non-ferrous metal foundries , (refining, foundry easting, etc.) with a melting capacity exceeding 4 tonnes per day for lead and cadmium or 20 tonnes per day for all other metals ⋈ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ... \ ...





		♥ 96/61/EC (adapted)
		⇒ new
		⇒ Council
2.6	Installations for a Surface treatment of metals X >	or XI and plastic materials using an

- 2.6. <u>Installations for sS</u>urface treatment of metals ⊠ or ⊠ and plastic materials using an electrolytic or chemical process where the volume of the treatment vats exceeds 30 m³
- 3. Mineral industry
- 3.1. Production of cement, lime and magnesium oxide:

 \bigcirc (a) \bigcirc Installations for the \underline{p} \bigcirc [...] \bigcirc \bigcirc \underline{p} \bigcirc roduction of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or \bigcirc in other kilns with a production capacity exceeding 50 tonnes per day; \bigcirc

 \bigcirc (b) \bigcirc [...] \bigcirc \bigcirc p \bigcirc roduction of \bigcirc lime in \bigcirc [...] \bigcirc kilns with a production capacity exceeding 50 tonnes per day \bigcirc [...] \bigcirc in \bigcirc [...] \bigcirc with a production capacity exceeding 50 tonnes per day \bigcirc].

- (c) production of magnesium oxide in kilns with a production capacity exceeding 50 tonnes per day.
- 3.2. <u>Installations for the Production of asbestos</u> \boxtimes or \boxtimes and the manufacture of asbestos-based products

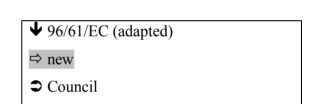
- 3.3. Installations for the mManufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day
 3.4. Installations for mMelting mineral substances including the production of mineral fibres with a melting capacity exceeding 20 tonnes per day
- 3.5. <u>Installations for the mM</u>anufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain <u>\(\bigcirc\).</u>
- (a) © with a production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m3 and ⊃; © ⇒ or ⇔
 - **②** (b) with a kiln capacity exceeding 4 m³ and **℃** with a setting density per kiln exceeding 300 kg/m³
- 4. Chemical industry
- For the purpose of this section, $\boxtimes \underline{Pp}$ roduction within the meaning of the categories of activities contained in this section means the production on an industrial scale by chemical \Rightarrow or biological \Leftrightarrow processing of substances or groups of substances listed in $\underline{Sections}$ points 4.1 to $\underline{4}$.
- 4.1. Chemical installations for the pProduction of basic organic chemicals, such as:
 - (a) simple hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic):
 - (b) oxygen-containing hydrocarbons such as alcohols, aldehydes, ketones, carboxylic acids, esters, acetates, ethers <u>□ including biodiesel</u> <u>□</u>, peroxides <u>□ [...]</u> <u>□ and</u> <u>□</u> epoxy resins :
 - (c) sulphurous hydrocarbons;

- (d) nitrogenous hydrocarbons such as amines, amides, nitrous compounds, nitro compounds or nitrate compounds, nitriles, cyanates, isocyanates;
- (e) phosphorus-containing hydrocarbons:
- (f) halogenic hydrocarbons:
- (g) organometallic compounds;
- (h) D[...] plastic materials (polymers D_ synthetic fibres and cellulose-based fibres);
- (i) synthetic rubbers:
- (j) dyes and pigments:
- (k) surface-active agents and surfactants_
- 4.2. Chemical installations for the <u>p</u>Production of basic inorganic chemicals, such as:
 - (a) gases, such as ammonia, chlorine or hydrogen chloride, fluorine or hydrogen fluoride, carbon oxides, sulphur compounds, nitrogen oxides, hydrogen, sulphur dioxide, carbonyl chloride;
 - (b) acids, such as chromic acid, hydrofluoric acid, phosphoric acid, nitric acid, hydrochloric acid, sulphuric acid, oleum, sulphurous acids:
 - (c) bases, such as ammonium hydroxide, potassium hydroxide, sodium hydroxide;
 - (d) salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate;
 - (e) non-metals, metal oxides or other inorganic compounds such as calcium carbide, silicon, silicon carbide.

- 4.3. Chemical installations for the <u>pP</u>roduction of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)
- 4.4. Chemical installations for the $\underline{p}P$ roduction of \underline{p} plant health products \boxtimes or \boxtimes and of biocides
- 4.5. <u>Installations using a chemical or biological process for the Production of basic</u> pharmaceutical products ⊠ including intermediates ⊠
- 4.6. Chemical installations for the <u>pP</u>roduction of explosives







5. Waste management

Without prejudice of Article 11 of Directive 75/442/EEC or Article 3 of Council Directive 91/689/EEC of 12 December 1991 on hazardous waste (*):

5.1.	Installations for the dD isposal or recovery of hazardous waste as defined in the list referr	ed
	to in Article 1 (4) of Directive 91/689/EEC, as defined in Annexes II A and II B	
	(operations R1, R5, R6, R8 and R9) to Directive 75/442/EEC and in Council Directive	
	75/439/EEC of 16 June 1975 on the disposal of waste oils (2), with a capacity exceeding	
	10 tonnes per day ⊠ involving <u>one or more of</u> the following activities: ⊠	
	⊗ (b) physico-chemical treatment;	
	\boxtimes (c) \supseteq [] \bigcirc \supseteq blending or mixing prior to submission to any of the other activities listed in points 5.1 and 5.2 \bigcirc ; \boxtimes	
		1
	\boxtimes (e) \bigcirc solvent reclamation/regeneration \bigcirc ; \boxtimes	
	recycling/reclamation of inorganic materials other than metals or metal	
compo	<u>unds;</u>	
	(g) regeneration of acids or bases;	
	(h) recovery of components used for pollution abatement;	
	(i) recovery of components from catalysts;	
	(j) oil re-refining or other reuses of oil;	
	(k) surface impoundment.	

- 5.2. Disposal or recovery of waste in waste incineration plants or in waste co incineration plants:
- (a) for C Installations for the C.... C ⇒ non-hazardous ← municipal waste as defined in Council Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants (3) and Council Directive 89/429/EEC of 21 June 1989 on the reduction of air pollution from existing municipal waste-incineration plants (4) with a capacity exceeding 3 tonnes per hour C.
- (b) for hazardous waste with a capacity exceeding 10 tonnes per day •...
- 5.3. Installations for the dDisposal ⇒ or recovery ⇔ of non-hazardous waste as defined in Annex II A to Directive 75/442/EEC under headings D8 and D9, with a capacity exceeding 50 tonnes per day ⊗ involving one or more the following activities one and excluding activities covered by Directive 91/271/EEC concerning urban waste-water treatment : ⊗

↓ new→ Council

- (c) pre-treatment of waste for co-incineration;
- (d) treatment of slags and ashes;
- (e) treatment of ⊃[...] ⊂ metal ⊃ in shredders ⊂.

◆ 96/61/EC (adapted)

Council

- 5.4. Landfills , as defined in Directive 1999/31/EC on the landfill of waste, receiving more than 10 tonnes of waste per day or with a total capacity exceeding 25000 tonnes, excluding landfills of inert waste.
- ⇒ 5.5. Temporary storage of hazardous waste not covered under point 5.4 pending any of the
 activities listed in points 5.1 and 5.2 with a total capacity exceeding 10 tonnes, excluding
 temporary storage, pending collection, on the site where the waste is produced.
- 5.6. Underground storage of hazardous waste with a total capacity exceeding 10 tonnes.

_	0.1		• . •
6	Other	activ	/1f1es
v.	Out	acu	

- 6.1. Industrial plants for the pProduction
 in industrial -installations
 of:
 - (a) pulp from timber or other fibrous materials;
 - (b) paper ⋈ or ⋈ and ⋈ card ⋈ board with a production capacity exceeding 20 tonnes per day:

new

(c) wood-based panels, with the exception of plywood, with a production capacity exceeding 600 m³ per day.

♦ 96/61/EC (adapted)

⇒ new

⇒ Council

- 6.2. Plants for the <u>pP</u>re-treatment (operations such as washing, bleaching, mercerization) or dyeing of ⊠ textile ⊠ fibres or textiles where the treatment capacity exceeds 10 tonnes per day
- 6.3. Plants for the <u>*T</u>anning of hides and skins where the treatment capacity exceeds 12 tonnes of finished products per day

- 6.4. (a)

 Solution Operating

 Solution Solution Solution Solution (a) Solution So
 - (b) Treatment and processing, ⇒ other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed ⇔, intended for the production of food ⊃[...] C ⊃ or feed C:
 - (i) only c animal raw materials (other than ⋈ exclusively ⋈ milk) with a finished product production capacity greater than 75 tonnes per day
 - (ii) only vegetable raw materials with a finished product production capacity greater than 300 tonnes per day (average value on a quarterly basis)

↓ new→ Council

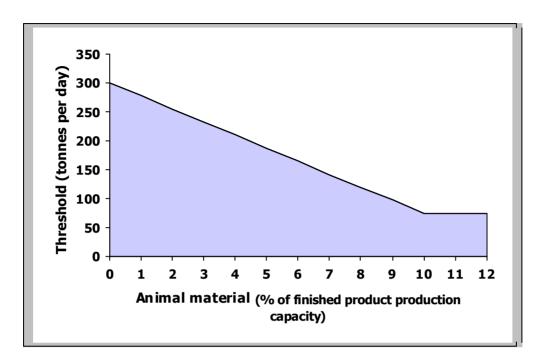
- (iii) ⊃[...] C animal and vegetable raw materials ⊃, both in combined and separate products, C with a finished product production capacity in tonnes per day greater than:
 - 75 if A is equal to 10 or more; or
 - [300- (22.5 x A)] in any other case

where 'A' is the portion of animal material (in percent <u>of weight</u> <u>of the</u> finished product production capacity

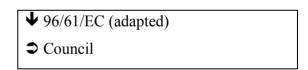
Packaging shall not be included in the final weight of the product.

This subsection shall not apply where the raw material is milk only.









(c) Treatment and processing of milk ⋈ only ⋈, the quantity of milk received being greater than 200 tonnes per day (average value on an annual basis)

- 6.5. <u>Installations for the Delisposal</u> or recycling of animal carcases ⊠or ≪ and animal waste with a treatment capacity exceeding 10 tonnes per day
- 6.6. Installations for the <u>I</u>intensive rearing of poultry or pigs <u>[...]</u> :
 - (a) 40000 places for poultry

↓ new⊃ Council

(a) <u>with more than 450 000 places for quails</u>, <u>C 40000 places for broilers <u>□</u>[...] <u>C</u>

<u>¬, pheasants, partridges or guinea fowl</u>, <u>C 30 000 places for laying hens <u>□</u>[...] <u>C</u>

<u>¬, <u>C</u> 24 000 places for ducks <u>¬, 12 000 places for geese</u> <u>C or 11 500 places for turkeys</u></u></u></u>

♦ 96/61/EC **⇒** Council

- (b) with more than 2 2 000 places for production pigs (over 30 kg), or
- (c) with more than © 750 places for sows



⊃[...] ⊂ ⊃ In cases of different types of species referred to in points (a), (b) and (c) reared in the same installation, where the product of the following formula is greater than 1:

$$\sum \frac{Pi}{Ti}$$

Pi is the number of places for the species i.

Ti is the threshold for the number of places of the species i as set out under points (a), (b) and (c).



- 6.7. <u>Installations for the Ss</u>urface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating, with ⊕ ⊠ an organic solvent ⊠ consumption capacity of more than 150 kg per hour or more than 200 tonnes per year.
- 6.8. <u>Installations for the Pp</u>roduction of carbon (hard-burnt coal) or electrographite by means of incineration or graphitization.

□ new□ Council

- 6.9. Preservation of wood and wood products <u>with chemicals</u> with a production capacity exceeding 75 m³ per day <u>other than exclusively treating against sapstain</u>.
- 6.10. Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment and discharged by an installation covered by Chapter I DIC.

OJ L 135, 30.5.1991, p. 40.

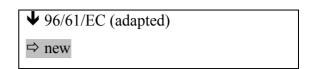
♦ 96/61/EC (adapted)

ANNEX II

LIST OF THE DIRECTIVES REFERRED TO IN ARTICLES 18 (2) AND 20

- 1. Directive 87/217/EEC on the prevention and reduction of environmental pollution by asbestos
- 2. Directive 82/176/EEC on limit values and quality objectives for mercury discharges by the chloralkali electrolysis industry
- 3. Directive 83/513/EEC on limit values and quality objectives for eadmium discharges
- 4. Directive 84/156/EEC on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry
- 5. Directive 84/491/EEC on limit values and quality objectives for discharges of hexachlorocyclohexane
- 6. Directive 86/280/EEC on limit values and quality objectives for discharges of certain dangerous substances included in List 1 of the Annex to Directive 76/464/EEC, subsequently amended by Directives 88/347/EEC and 90/415/EEC amending Annex II to Directive 86/280/EEC
- 7. Directive 89/369/EEC on the prevention of air pollution from new municipal waste incineration plants
- 8. Directive 89/429/EEC on the reduction of air pollution from existing municipal waste-incineration plants
- 9. Directive 94/67/EC on the incineration of hazardous waste

- 10. Directive 92/112/EEC on procedures for harmonizing the programmes for the reduction and eventual elimination of pollution caused by waste from the titanium oxide industry
- 11. Directive 88/609/EEC on the limitation of emissions of certain pollutants into the air from large combustion plants, as last amended by Directive 94/66/EC
- 12. Directive 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community
- 13. Directive 75/442/EEC on waste, as amended by Directive 91/156/EEC
- 14. Directive 75/439/EEC on the disposal of waste oils
- 15. Directive 91/689/EFC on hazardous waste



ANNEX IIII

Indicative list of the main polluting substances to be taken into account if they are relevant for $\frac{\text{fixing emission limit values}}{\text{fixing emission limit values}} \boxtimes \text{List of polluting substances} \boxtimes$

AIR

- 1. Sulphur dioxide and other sulphur compounds
- 2. Oxides of nitrogen and other nitrogen compounds
- 3. Carbon monoxide
- 4. Volatile organic compounds
- 5. Metals and their compounds
- 6. Dust ⇒ including fine particulate matter ⇔
- 7. Asbestos (suspended particulates, fibres)
- 8. Chlorine and its compounds
- 9. Fluorine and its compounds
- 10. Arsenic and its compounds
- 11. Cyanides

- 12. Substances and preparations which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction via the air
- 13. Polychlorinated dibenzodioxins and polychlorinated dibenzofurans

WATER

- 1. Organohalogen compounds and substances which may form such compounds in the aquatic environment
- 2. Organophosphorus compounds
- 3. Organotin compounds
- 4. Substances and preparations which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction in or via the aquatic environment
- 5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances
- 6. Cyanides
- 7. Metals and their compounds
- 8. Arsenic and its compounds
- 9. Biocides and plant health products
- 10. Materials in suspension
- 11. Substances which contribute to eutrophication (in particular, nitrates and phosphates)
- 12. Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).

□ new

13. Substances listed in Annex X of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy¹.

▶ 96/61/EC (adapted)Council

ANNEX IIIIV

☒ Criteria for determining best available techniques **☒**

Considerations to be taken into account generally or in specific cases when determining best available techniques, as defined in Article 2(12), bearing in mind the likely costs and benefits of a measure and the principles of precaution and prevention:

- 1. the use of low-waste technology;
- 2. the use of less hazardous substances;
- 3. the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate;
- 4. comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
- 5. technological advances and changes in scientific knowledge and understanding;
- 6. the nature, effects and volume of the emissions concerned;
- 7. the commissioning dates for new or existing installations;
- 8. the length of time needed to introduce the best available technique;

- 9. the consumption and nature of raw materials (including water) used in the process and energy efficiency;
- 10. the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it;
- 11. the need to prevent accidents and to minimize the consequences for the environment;
- 12. the information published by the Commission pursuant to Article 16(2) or by international organizations.
- **□** 12. information published by public international organisations. **□**

↓ 2003/35/EC

ANNEX IV¥

Public participation in decision-making

- 1. The public shall be informed (by public notices or other appropriate means such as electronic media where available) of the following matters early in the procedure for the taking of a decision or, at the latest, as soon as the information can reasonably be provided:
 - (a) the application for a permit or, as the case may be, the proposal for the updating of a permit or of permit conditions in accordance with Article 22 15(1), including the description of the elements listed in Article 13(1) 6(1)







(<u>bc</u>) where applicable, the fact that a decision is subject to a national or transboundary environmental impact assessment or to consultations between Member States in accordance with Article <u>28</u> <u>17</u>;

- (<u>ed</u>) details of the competent authority responsible for taking the decision, those from which relevant information can be obtained, those to which comments or questions can be submitted, and details of the time schedule for transmitting comments or questions;
- (\underline{de}) the nature of possible decisions or, where there is one, the draft decision;
- (<u>ef</u>) where applicable, the details relating to a proposal for the updating of a permit or of permit conditions;
- (<u>fg</u>) an indication of the times and places where, or means by which, the relevant information will be made available;
- (<u>sh</u>) details of the arrangements for public participation and consultation made pursuant to point 5.
- 2. Member States shall ensure that, within appropriate time-frames, the following is made available to the public concerned:
 - (a) in accordance with national legislation, the main reports and advice issued to the competent authority or authorities at the time when the public concerned were informed in accordance with point 1;
 - (b) in accordance with the provisions of Directive 2003/4/EC of the European

 Parliament and of the Council of 28 January 2003 on public access to environmental information, information other than that referred to in point 1 which is relevant for the decision in accordance with Article 68 and which only becomes available after the time the public concerned was informed in accordance with point 1.

- 3. The public concerned shall be entitled to express comments and opinions to the competent authority before a decision is taken.
- 4. The results of the consultations held pursuant to this Annex must be taken into due account in the taking of a decision.
- 5. The detailed arrangements for informing the public (for example by bill posting within a certain radius or publication in local newspapers) and consulting the public concerned (for example by written submissions or by way of a public inquiry) shall be determined by the Member States. Reasonable time-frames for the different phases shall be provided, allowing sufficient time for informing the public and for the public concerned to prepare and participate effectively in environmental decision-making subject to the provisions of this Annex.

- **Ψ** 2001/80/EC (adapted)
- → 2006/105/EC Art. 1 and Annex .B(2)
- \rightarrow 2 Art. 20 and Annex II, p. 703
- →₃ Art. 20 and Annex II, p. 703 and Art. 20 and Annex II, p. 704

ANNEX V I

☒ Technical provisions relating to combustion plants **☒**

Part 1

CEILINGS AND REDUCTION TARGETS FOR EMISSIONS OF SO₂ FROM EXISTING PLANTS[‡]

Member State	0	1	2	3	4	5	6	7	8	9
	SO ₂ emissions by large	I	Emission ceilin (ktonnes/year)		% reduct	ion over 1980	emissions	% reduc	tion over adju	sted 1980
	combustion plants 1980	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3
	ktonnes	1993	1998	2003	1993	1998	2003	1993	1998	2003
Belgium	530	318	212	159	-40	-60	-70	-40	-60	-70
→ ₁ Bulgaria ←	→ ₁ 1734 ←	→ ₁ 1410 ←	→ ₁ 1300 ←	→ 1 1190 ←	→ 1 - 19 ←	→ 1 - 25 ←	→ ₁ - 31 ←	→ 1 19 ←	→ 1 - 25 ←	→ 1 - 31 ←
→ ₂ Czech Republie ←	→ ₂ 1408 ←	→ ₂ 919 ←	→ ₂ 303 ←	→ ₂ 155 ←	→ ₂ - 35 ←	→ ₂ - 79 ←	→ ₂ - 89 ←	→ ₂ - 35 ←	→ ₂ - 79 ←	→ ₂ - 89 ←
Denmark	323	213	141	106	-34	-56	-67	-40	-60	-70

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ANNEX V DG I EN

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

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.

Germany	2225	1335	890	668	-40	-60	-70	-40	-60	-70
→ ₂ Estonia ←	→ ₂ 240 ←	→ ₂ 123 ←	→ ₂ 94 ←	→ ₂ 76 ←	→ ₂ - 49 ←	→ ₂ - 62 ←	→ ₂ - 68 ←	→ ₂ -49 ←	→ ₂ - 62 ←	→ ₂ - 68 ←
Greece	303	320	320	320	+6	+6	+6	-45	<u>45</u>	-45
Spain	2290	2290	1730	1440	0	-24	-37	21	-40	-50
France	1910	1146	764	573	-40	-60	-70	-40	-60	-70
Ireland	99	124	124	124	+25	+25	+25	-29	-29	-29
Italy	2450	1800	1500	900	-27	39	-63	-40	-50	-70
→ ₃ Cyprus ←	→ ₃ 17 ←	→ ₃ 29 ←	→ ₃ 32 ←	→ ₃ 34 ←	→ ₃ +71 ←	→ 3 +88 ←	→ ₃ +100 ←	→ ₃ +71 ←	→ ₃ +88 ←	→ ₃ +100 ←
→ ₃ Latvia ←	→ ₃ 60 ←	→ ₃ 40 ←	→ ₃ 30 ←	→3 25 ←	→ ₃ - 30 ←	→ ₃ - 50 ←	→ ₃ - 60 ←	→ ₃ - 30 ←	→ ₃ - 50 ←	→ ₃ - 60 ←
→ ₃ Lithuania ←	→ ₃ 163 ←	→ ₃ 52 ←	→ ₃ 64 ←	→ ₃ 75 ←	→ ₃ - 68 ←	→ ₃ - 61 ←	→ ₃ - 54 ←	→ ₃ - 68 ←	→ ₃ - 61 ←	→ ₃ - 54 ←
Luxembourg	3	1,8	1,5	1,5	-40	-50	-60	-40	-50	-50
→ ₃ Hungary ←	→ ₃ 720 ←	→ ₃ 429 ←	→ ₃ 448 ←	→ ₃ 360 ←	→ ₃ - 40 ←	→ ₃ - 38 ←	→ ₃ - 50 ←	→ ₃ - 40 ←	→ ₃ - 38 ←	→ ₃ - 50 ←
→ ₃ Malta ←	→ ₃ 12 ←	→ ₃ 13 ←	→ ₃ 17 ←	→ ₃ 14 ←	→3 +14 ←	→ ₃ +51 ←	→ ₃ +17 ←	→3 +14 ←	→ ₃ +51 ←	→ ₃ +17 ←

Netherlands	299	180	120	90	-40	-60	-70	-40	-60	-70
Portugal	115	232	270	206	+102	+135	+79	-25	-13	34
→ ₃ Poland ←	→ ₃ 2087 ←	→ ₃ 1454 ←	→ ₃ 1176 ←	→ ₃ 1110 ←	→ ₃ - 30 ←	→3 -44 ←	→ ₃ -47 ←	→ ₃ - 30 ←	→3 -44 ←	→ ₃ -47 ←
→ ₁ Romania ←	→ ₁ 561 ←	→ ₁ 692 ←	→ ₁ 503 ←	→ ₁ 518 ←	→ ₁ 23 ←	→ 1 - 10 ←	→1 -8 ←	→ ₁ 23 ←	→ 1 - 10 ←	→1 -8 ←
→ ₃ Slovenia ←	→ ₃ 125 ←	→ ₃ 122 ←	→3 98 ←	→ ₃ 49 ←	→3 -2 ←	→ ₃ - 22 ←	→ ₃ - 61 ←	→3 -2 ←	→ ₃ - 22 ←	→ ₃ - 61 ←
→ ₃ Slovakia ←	→ ₃ 450 ←	→ ₃ 177 ←	→ ₃ 124 ←	→3 86 ←	→ ₃ - 60 ←	→ ₃ - 72 ←	→3 -81 ←	→ ₃ - 60 ←	→ ₃ - 72 ←	→ ₃ - 81 ←
United Kingdom	3883	3106	2330	1553	-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

ANNEX II

CEILINGS AND REDUCTION TARGETS FOR EMISSIONS OF NOx FROM EXISTING PLANTS 14

Member State	0	1	2	3	4	5	6
	NO _x emissions (as NO ₂) by large combustion plants	NO _* emissi			on over 1980 ssions	% reduction ove emiss	
	1980	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2
	ktonnes	1993 ³	1998	19934	1998	1993 ⁵	1998
Belgium	110	88	66	-20	40	-20	40

_

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

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.

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

⁴ Member States may for technical reasons delay for up to two years the phase 1-date for reduction in NO_{*} emissions by notifying the Commission within one month of the notification of this Directive.

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

→1 Bulgaria ←	→ ₁ 155 ←	→ ₁ 125 ←	→ ₁ 95 ←	→ 1 - 19 ←	→ ₁ - 39 ←	→ 1 - 19 ←	→ ₁ - 39 ←
→ ₃ Czech Republie ←	→ ₃ 403 ←	→ ₃ 228 ←	→ ₃ 113 ←	→ ₃ -43 ←	→3 -72 ←	→ ₃ -43 ←	→3 -72 ←
Denmark	124	121	81	3	35	-10	-40
Germany	870	696	522	-20	-40	-20	-40
→ ₃ Estonia ←	→ ₃ 20 ←	→ ₃ 10 ←	→ ₃ 12 ←	→ ₃ - 52 ←	→ ₃ -40 ←	→ ₃ - 52 ←	→ ₃ - 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
→ ₃ Cyprus ←	→ ₃ 3 ←	→ ₃ 5 ←	→ ₃ 6 ←	→ ₃ + 67 ←	→ ₃ + 100 ←	→ ₃ + 67 ←	→ ₃ + 100 ←
→ ₃ Latvia ←	→ ₃ 10 ←	→ ₃ 10 ←	→ ₃	→3 -4 ←	→ ₃ - 10 ←	→3 -4 ←	→ ₃ - 10 ←
→ ₃ Lithuania ←	→ ₃ 21 ←	→ ₃	→₃ # ←	→3 -62 ←	→ ₃ - 48 ←	→ ₃ - 62 ←	→ ₃ - 48 ←

Luxembourg	3	2,4	1,8	-20	-40	20	-40
→ ₃ Hungary ←	→ ₃ 68 ←	→ ₃ 33 ←	→ ₃ 34 ←	→ ₃ - 51 ←	→ ₃ - 49 ←	→ ₃ - 51 ←	→ ₃ - 49 ←
→ ₃ Malta ←	→ ₃ 1,7 ←	→ ₃ 7 ←	→ ₃ 2,5 ←	→ ₃ + 299 ←	→ ₃ + 51 ←	→ ₃ + 299 ←	→ ₃ + 51 ←
Netherlands	122	98	73	-20	-40	20	-40
Portugal	23	59	64	+157	+178	-8	0
→3 Poland ←	→ ₃ 698 ←	→ ₃ 426 ←	→ ₃ 310 ←	→ ₃ - 39 ←	→ ₃ - 56 ←	→ ₃ - 39 ←	→ ₃ - 56 ←
→ ₁ Romania ←	→ ₁ 135 ←	→ ₁ 135 ←	→ 1 77 ←	→ 1 - 1 ←	→ ₁ - 43 ←	→ 1 - 4 ←	→ ₁ - 43 ←
→ ₃ Slovenia ←	→ ₃ 17 ←	→ ₃ 15 ←	→ ₃ 16 ←	→ ₃ - 12 ←	→ ₃ - 6 ←	→ ₃ - 12 ←	→ ₃ - 6 ←
→ ₃ Slovakia ←	→ ₃ 141 ←	→ ₃ 85 ←	→ ₃ 46 ←	→ ₃ - 40 ←	→ ₃ - 67 ←	→ ₃ - 40 ←	→ ₃ - 67 ←
United Kingdom	1016	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

ANNEX III

Emission limit values ⊠ for combustion plants referred to in Article 33(2) ⊠ FOR SO₂

SOLID FUEL

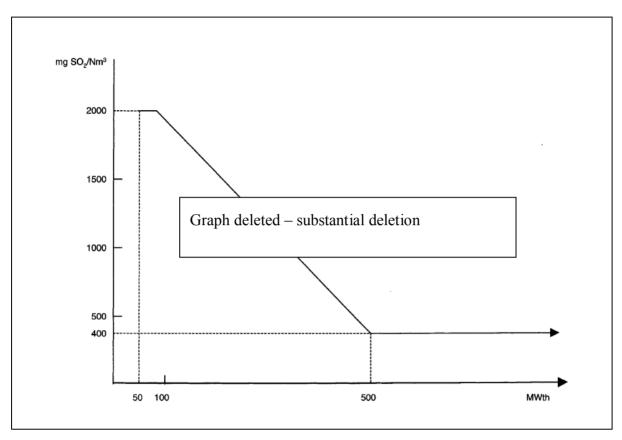
A: SO₂ emission limit values expressed in mg/Nm² (O₂ content 6 %) to be applied by new and existing plants pursuant to Article 4(1) and 4(3) respectively:

◆ 2001/80/EC Art. 2 (adapted)

Council

☐ In case of combined cycle gas turbines (CCGT) with supplementary firing, the standardized O2 content may be defined by the competent authority, taking into account the specific characteristics of the installation concerned. ☐





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. SO₂ emission limit values expressed in mg/Nm² (O₂ 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 [±]	200

NB.

Where the emission limit values above cannot be met due to the characteristics of the fuel, installations shall achieve 300 mg/Nm²-SO₂, 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/Nm² shall apply.

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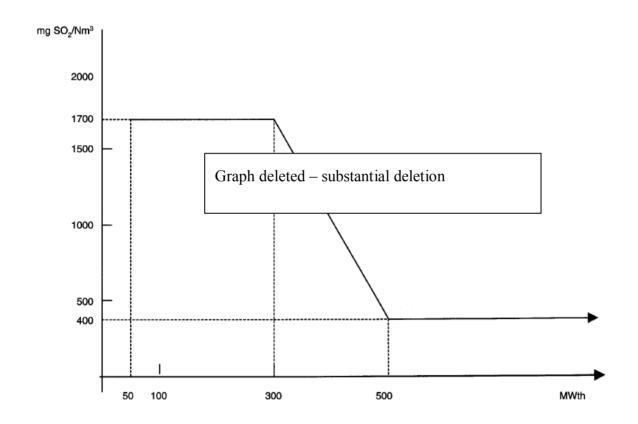
Except in the case of the 'Outermost Regions' where 850 to 200 mg/Nm² (linear decrease) shall apply.

ANNEX IV

EMISSION LIMIT VALUES FOR SO2

Liquid fuels

A. SO₂ emission limit values expressed in mg/Nm² (O₂ content 3 %) to be applied by new and existing plants pursuant to Article 4(1) and 4(3), respectively:



B. SO₂ emission limit values expressed in mg/Nm³ (O₂ 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	200
	(linear decrease) [‡]	

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 1700 mg/Nm² shall apply.

□ new

In case of combined cycle gas turbines (CCGT) with supplementary firing, the standardized O_2 content may be defined by the competent authority, taking into account the specific characteristics of the installation concerned.

 \boxtimes 2. Emission limit values (mg/Nm³) for SO₂ for \bigcirc [...] \bigcirc \bigcirc combustion plants \bigcirc using solid or liquid fuels \bigcirc with the exception of gas turbines and gas engines \bigcirc \bigotimes

Rated thermal	Coal and lignite	Biomass	Peat	Liquid fuels
input (MWth)				
⇒ 50-100 ⇔	⇒ 400 ←	200	⇒ 300 ⇔	⇒ 350 ←
⇒ 100-300 ←	⇒ 250 ⇔	200	⇒ 300 ←	⇒ 250 ←
⇒ > 300 ⇐	⇒ 200 ←	200	⇒ 200 ←	⇒ 200 ←

_

Except in the case of the 'Outermost Regions' where 850 to 200 mg/Nm² (linear decrease) shall apply.

- **▶** 2001/80/EC Art. 5 (adapted)
- **⊃** Council

By way of derogation from Annex III:

 \bigcirc 2b \bigcirc \bigcirc \bigcirc Combustion \bigcirc plants of a rated thermal input equal to or greater than 400 MW, \bigcirc using solid fuels which were granted a permit before 27 November 2002, and \bigcirc which do not operate more than the following numbers of \bigcirc 1500 \bigcirc operating \bigcirc hours per year \bigcirc as a \bigcirc (rolling average over a period of five years), shall be subject to \bigcirc an emission \bigcirc limit value for SO₂ emissions of 800 mg/Nm³.

Combustion plants using liquid fuels, which were granted a permit before 27 November 2002 and which do not operate more than 1 500 operating hours per year as a rolling average over a period of five years, shall be subject to an emission limit value for SO2 of 850 mg/Nm3 in case of plants with a rated thermal input not exceeding 300 MWth and of 400 mg/Nm3 in case of plants with a rated thermal input greater than 300 MW_{th}.

A part of a combustion plant which discharges its waste gases through a separate flue within a common stack may be subject to the emission limit values set out in this point if the total number of operating hours of all such parts within one combustion plant does not exceed 1 500 operating hours per year as a rolling average over a period of five years. In such cases the emissions through this flue shall be monitored separately.

◆ 2001/80/EC (adapted)	
⇒ new	
⊃ Council	

ANNEX V

3. Emission limit values \boxtimes (mg/Nm³) \boxtimes for SO₂ \boxtimes for \bigcirc combustion plants \bigcirc using gaseous fuels \bigcirc with the exception of gas turbines and gas engines \bigcirc \boxtimes

Gaseous fuels

A. SO₂ emission limit values expressed in mg/Nm² (O₂ 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/Nm3)
Gaseous fuels Inin general	35
Liquefied gas	5
Low calorific gases from gasification of refinery residues, coke oven gas, blast furnace gas	800 400
⇒ Low calorific gases from blast furnace ⇔	⇒ 200 ←
Gas from gasification of coal	t

B. SO₂ emission limit values expressed in mg/Nm² (O₂ content 3 %) to be applied by new plants pursuant to Article 4(2):

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.

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

⊅ new⊃ Council

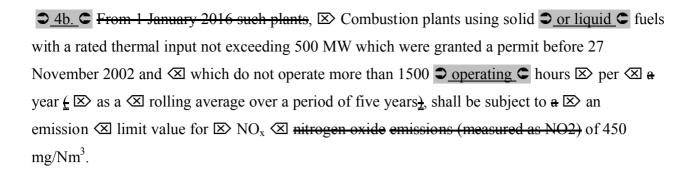
4. Emission limit values (mg/Nm³) for NO_x for \bigcirc [...] \bigcirc \bigcirc combustion plants \bigcirc using solid or liquid fuels \bigcirc with the exception of gas turbines and gas engines \bigcirc

Rated thermal input (MWth)	Coal and lignite	Biomass and peat	Liquid fuels
50-100	300 450 in case of pulverised lignite combustion	300	450
100-300	200	250	200
> 300	200	200	150

◆ 2001/80/EC Annex VI (adapted)

Council

- (2) Until 31 December 2015 plants of a rated thermal input greater than 500 MW, which from 2008 onwards do not operate more than 2000 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 NO2) of 600 mg/Nm3;
- 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/Nm3.



- Combustion plants using solid fuels with a rated thermal input \bigcirc [...] \bigcirc \bigcirc greater than \bigcirc 500 MW \bigcirc [...] \bigcirc , which were granted a permit before 1 July 1987 and which do not operate more than 1500 \bigcirc operating \bigcirc hours per year as a rolling average over a period of five years, shall be subject to an emission limit value for NO_x of 450 mg/Nm³. \bigcirc
- Combustion plants using liquid fuels, with a total rated thermal input greater than 500 MW_{th} which were granted a permit before 27 November 2002 and which do not operate more than 1 500 operating hours per year as a rolling average over a period of five years, shall be subject to an emission limit value for NOx of 400 mg/Nm3.

A part of a combustion plant which discharges its waste gases through a separate flue within a common stack may be subject to the emission limit values set out in this point if the total number of operating hours of all such parts within one combustion plant does not exceed 1 500 operating hours per year as a rolling average over a period of five years. In such cases the emissions through this flue shall be monitored separately.

◆ 2001/80/EC (adapted)	
⇒ new	
○ Council	

ANNEX VI

 \boxtimes 5. Emission limit values (mg/Nm³) for NO_x \boxtimes (MEASURED AS NO₂) \Rightarrow and CO for gas fired combustion plants \Leftarrow

A. NO_{*} emission limit values expressed in mg/Nm² (O₂ 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 [‡]
	(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

Except in the case of the 'Outermost Regions' where the following values shall apply:Solid in general: 650Solid with < 10 % vol comps: 1300Liquid: 450Gaseous: 350

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Until 31 December 2015 plants of a rated thermal input greater than 500 MW, which from 2008 onwards do not operate more than 2000 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 NO₂) of 600 mg/Nm²;

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/Nm₂.

From 1 January 2016 such plants, which do not operate more than 1500 hours a year (rolling average over a period of five years), shall be subject to a limit value for nitrogen oxide emissions (measured as NO₂) of 450 mg/Nm².

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 %, 1200 mg/Nm² shall apply.

Liquid:	
50 to 500 MWth:	450
≥500 MWth:	400
Gascous:	
50 to 500 MWth:	300
>500 MWth:	200

B. NO_{*} emission limit values expressed in mg/Nm² to be applied by new plants pursuant to Article 4(2) with the exception of gas turbines

Solid fuels (O2 content 6 %)

Type of fuel	50 to 100 MWth	100 to 300 MWth	> 300 MWth
Biomass	400	300	200
General case	400	200 [‡]	200

Liquid fuels (O2 content 3 %)

50 to 100 MWth	100 to 300 MWth	> 300 MWth
400	200 2	200

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/Nm² shall apply.

Gaseous fuels (O2 content 3 %)

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

Except in the case of the 'Outermost Regions' where 300 mg/Nm² shall apply.

Except in the ease of the 'Outermost Regions' where 300 mg/Nm² shall apply.

Cas Turbines

NO_{*} emission limit values expressed in mg/Nm² (O₂ 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

	⇒ NO _x ←	⇒ co ⇔
⇒ ⊃ [] C ← Combustion plants firing natural gas with the exception of gas turbines and gas engines C	⇒ 100 ←	⇒ 100 ←
Combustion plants firing blast furnace gas with the exception of gas turbines and gas engines	⊃ <u>135</u> €	<u> 100</u> €
Combustion plants firing refinery fuel gas with the exception of gas turbines and gas engines	<u> 150</u>	<u>100</u> €
⇒ Gas turbines (including CCGT), using natural gas ⁽¹⁾ as fuel ←	➣ 50 ⁽²⁾⁽³⁾ ఁ	⇒ 100 ←
⇒ Gas turbines (including CCGT), using other than natural gas as fuel ⁽⁴⁾ ←	⇒ 90 ←	⇒ 100 ←
	⇒ 100 ←	⇒ 100 ←

Note<u>s</u> <u>1</u>:

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

Note 2:

(2) 75 mg/Nm³ in the following cases, where the efficiency of the gas turbine is determined at ISO base load conditions:

- (i) gas turbines, used in combined heat and power systems having an overall efficiency greater than 75 %;
- (ii) gas turbines used in combined cycle plants having an annual average overall electrical efficiency greater than 55 %;
- (iii) gas turbines for mechanical drives.

(3) For single cycle gas turbines not falling into any of the above categories \boxtimes mentioned under note (2) \boxtimes , but having an efficiency greater than 35 % - determined at ISO base load conditions - the emission limit value \boxtimes for $NO_x \boxtimes$ shall be $50\underline{x}\underline{*}\eta/35$ where η is the gas turbine efficiency \boxtimes at ISO base load conditions \boxtimes expressed as a percentage (and at ISO base load conditions).

Note 3:

- (4) \boxtimes These \boxtimes This emission limit value only applies \boxtimes values also apply \boxtimes to gas turbines \boxtimes using \boxtimes \cong \cong liquid fuels \cong .
- \boxtimes For gas turbines \boxtimes \Rightarrow (including CCGT) \Leftarrow , \boxtimes the NO_x and CO emission limit values set out in the table contained in this point apply only above 70 % load. \boxtimes

<u>Standard Standard S</u>

A part of a combustion plant which discharges its waste gases through a separate flue within a common stack may be subject to the emission limit values set out in this point if the total number of operating hours of all such parts within one combustion plant does not exceed 1 500 operating hours per year as a rolling average over a period of five years. In such cases the emissions through this flue shall be monitored separately \bigcirc

Gas turbines \bigcirc and gas engines \bigcirc for emergency use that operate less than 500 \bigcirc operating \bigcirc hours per year are \boxtimes not covered by \boxtimes excluded from these \boxtimes emission \boxtimes limit values \boxtimes set out in this point \boxtimes . The operator of such plants \boxtimes shall \boxtimes is required to submit each year to the competent authority a record \boxtimes the used operating \boxtimes of such used \bigcirc [...] \bigcirc hours \bigcirc .

new		
Council		

6. Emission limit values (mg/Nm³) for dust for ⊃[...] ⊂ ⊃ combustion plants ⊂ using solid or liquid fuels ⊃ with the exception of gas turbines and gas engines ⊂

Rated thermal input (MWth)	Coal and lignite	Biomass and peat	Liquid fuels
50-100	30	30	30
100-300	25	20	25
> 300	20	20	20

◆ 2001/80/EC (adapted)
○ Council

ANNEX VII

EMISSION LIMIT VALUES FOR DUST

A. Dust emission limit values expressed in mg/Nm³ (O₂-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/Nm²)
Solid	<u>≥ 500</u>	50 ⁺
	< 500	100
Liquid²	all plants	50
Gascous	all plants	5 as a rule
		10 for blast furnace gas
		50 for gases produced by the steel industry which can be used elsewhere

A limit value of 100 mg/Nm² 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 5800 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 %.

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 %.

B. Dust emission limit values expressed in mg/Nm² to be applied by new plants, pursuant to Article 4(2) with the exception of gas turbines:

Solid fuels (O2 content 6 %)

50 to 100 MWth	> 100 MWth
50	30

Liquid fuels (O2 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.

 \boxtimes 7. Emission limit values (mg/Nm³) for dust for \bigcirc combustion plants \bigcirc \bigcirc using \boxtimes gaseous fuels \bigcirc with the exception of gas turbines and gas engines \bigcirc \bigcirc content 3 %)

As a rule In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In	5
For <u>Bb</u> last furnace gas	10
For Geases produced by the steel industry which can be used elsewhere	30

⊠ Emission limit values for combustion plants referred to in Article 33(3) **⊠**

◆ 2001/80/EC Art. 2 (adapted)

Council

↓ new

In case of combined cycle gas turbines with supplementary firing, the standardized O_2 content may be defined by the competent authority, taking into account the specific characteristics of the installation concerned.

 \boxtimes 2. Emission limit values (mg/Nm³) for SO₂ for \bigcirc [...] \bigcirc \bigcirc combustion plants \bigcirc using solid or liquid fuels \bigcirc with the exception of gas turbines and gas engines \bigcirc \bigcirc

Rated thermal input (MWth)	Coal and lignite	Biomass	Peat	Liquid fuels
⇒ 50-100 ←	⇒ 400←	200	⇒ 300 ←	⇒ 350 ←
⇒ 100-300 ←	⇒ 200 ←	200	⇒ 300	⇒ 200 ←
			250 in case of fluidized bed combustion ←	
⇒ > 300 ←	⇒ 150	⇒ 150 ←	⇒ 150	⇒ 150 ←
	200 in case of circulating or pressurized fluidized bed combustion ←		200 in case of fluidized bed combustion ←	

◆ 2001/80/EC Annex V (adapted)

Council

 \boxtimes 3. Emission limit values (mg/Nm³) for SO₂ for \bigcirc <u>[...]</u> \bigcirc <u>combustion plants</u> \bigcirc using gaseous fuels \bigcirc <u>with the exception of gas turbines and gas engines</u> \bigcirc \boxtimes <u>B. SO₂ emission limit values</u> expressed in mg/Nm³ (O₂ 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 calorific gases from blast furnace	200

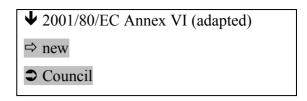
◆ 2001/80/EC Annex VI (B) (adapted)
⇒ new
→ Council

\Rightarrow 4. Emission limit values (mg/Nm³) for NO_x for \bigcirc [...] \bigcirc \bigcirc combustion plants \bigcirc using solid or liquid fuels \bigcirc with the exception of gas turbines and gas engines \bigcirc \bigcirc

⇒ Rated thermal input (MWth) ←	⇒ Coal and lignite ←	⇒ Biomass and peat ←	⇒ Liquid fuels
⇒ 50-100 ←	⇒ 300 ←	⇒ 250 ←	⇒ 300 ←
	≥ 400 in case of pulverised lignite combustion ≥		
⇒ 100-300 ←	⇒ 200 ←	⇒ 200 ←	⇒ 150 ←
⇒ > 300 ←	⇒ 150	⇒ 150 ←	⇒ 100 ←
	200 in case of pulverised lignite combustion ←		

\Rightarrow 5. Emission limit values (mg/Nm³) for NO_x and CO for gas fired combustion plants \Leftrightarrow

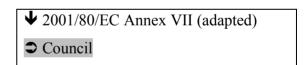
	$\Rightarrow NO^x \Leftarrow$	⇒ CO ←
⇒ ⊃ []	⇒ 100 ←	⇒ 100 ←
\Rightarrow Gas turbines (including CCGT) ⁽¹⁾ \Leftarrow	$\Rightarrow 50^{(2)} \Leftarrow$	⇒ 100 ←
⇒ Gas engines ⇔	⇒ 75 ←	⇒ 100 ⇔



Notes

- \boxtimes (1) For gas turbines using light and middle distillates as liquid fuels, the emission limit values for NO_x and for CO set out in this point also apply. \boxtimes
- \boxtimes (2) For single cycle gas turbines having an efficiency greater than 35% determined at ISO base load conditions the emission limit value for NO_x shall be $50\underline{x*}\eta/35$ where η is the gas turbine efficiency at ISO base load conditions expressed as a percentage. \boxtimes
- \boxtimes For gas turbines \boxtimes \Rightarrow (including CCGT) \Leftarrow , \boxtimes the NO_x and CO emission limit values set out in this point apply only above 70 % load. \boxtimes

Gas turbines \bigcirc and gas engines \bigcirc for emergency use that operate less than 500 \bigcirc operating \bigcirc hours per year are excluded from these \boxtimes emission \bigotimes limit values \boxtimes set out in this point \bigotimes . The operator of such plants \boxtimes shall \bigotimes is required to submit each year to the competent authority a record \boxtimes the used operating \bigotimes of such used \bigcirc [...] \bigcirc \bigcirc hours \bigcirc .



Emission limit values (mg/Nm³) for dust for □[...] □ □ combustion plants □ using solid or liquid fuels □ with the exception of gas turbines and gas engines □

	□ new	
Rated thermal input (MWth)		
50- 300	20	
> 300	10	
	20 for biomass and peat	

◆ 2001/80/EC Annex VII (adapted)

Council

 \boxtimes 7. Emission limit values (mg/Nm³) for dust for \bigcirc [...] \bigcirc \bigcirc combustion plants \bigcirc using gaseous fuels \bigotimes \bigcirc with the exception of gas turbines and gas engines \bigcirc

As a rule In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In general In gen	5
For Bb last furnace gas	10
For Ge ases produced by the steel industry which can be used elsewhere	

▶ 2001/80/EC (adapted)

ANNEX VIII

Part 3

⊠ Emission monitoring **⊴** METHODS OF MEASUREMENT OF EMISSIONS

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

1. Until 27 November 2004

Concentrations of SO₂, dust, NO_{*} 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 SO₂ 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.

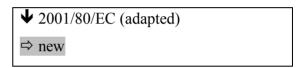
In the case of new plants for which a licence is granted pursuant to Article 4(1) not covered by the first subparagraph, the competent authorities may require continuous measurements of those three pollutants to be carried out where considered necessary. Where continuous measurements are not required, 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)

<u>1.</u> Competent authorities shall require continuous measurements of \boxtimes The \boxtimes concentrations of SO_2 , NO_x and dust from \boxtimes in \boxtimes waste gases from each combustion plant with a rated thermal input of 100 MW or more \boxtimes shall be measured continuously \boxtimes .

[↓] new

The concentration of CO in waste gases from combustion plants firing gaseous fuels with a rated thermal input of 100 MW or more shall be measured continuously.



- 2. By way of derogation from the first subparagraph,

 The competent authority

 continuous measurements may

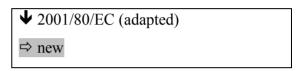
 decide not to require the continuous measurements referred to in point 1

 not be required in the following cases:
- (a) for combustion plants with a life span of less than 10 000 operational hours;
- (b) for SO₂ and dust from natural gas burning boilers or from gas turbines ⊗ combustion plants ⊗ firing natural gas;
- (c) for SO_2 from gas turbines or boilers \boxtimes combustion plants \boxtimes firing oil with known sulphur content in cases where there is no \boxtimes waste gas \boxtimes desulphurisation equipment;
- for SO_2 from biomass- \boxtimes combustion plants \boxtimes firing \boxtimes biomass \boxtimes boilers if the operator can prove that the SO_2 emissions can under no circumstances be higher than the prescribed emission limit values.

<u>3</u>. Where continuous measurements are not required, discontinuous measurements \Rightarrow of SO₂, NO_x, dust and, for gas fired plants, also for CO \Leftarrow shall be required at least every \boxtimes once per \bigotimes six months.

↓ new

4. For combustion plants firing coal or lignite, the emissions of total mercury shall be measured at least once per year.



 $\underline{5}$. As an alternative \boxtimes to the measurements of SO_2 and NO_x referred to in point $3 \boxtimes$, appropriate determination \boxtimes other \boxtimes procedures, which must be verified and approved by the competent \boxtimes authority \boxtimes authorities, may be used to evaluate \boxtimes determine \boxtimes the quantity of the \boxtimes SO_2 and $NO_x \boxtimes$ above mentioned pollutants present in the emissions. Such procedures shall use relevant CEN standards or, as soon as they are available. if 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 SO₂ 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.

- <u>64</u>. The competent \boxtimes authority \boxtimes authorities shall be informed of substantial \boxtimes significant \boxtimes changes in the type of fuel used or in the mode of operation of the plant. They \boxtimes The competent authority \boxtimes shall decide whether the monitoring requirements laid down in <u>points 1 to 4 paragraph</u> 2 are still adequate or require adaptation.
- <u>75</u>. The continuous measurements carried out in \boxtimes accordance \boxtimes compliance with <u>point 1</u> <u>paragraph 2</u> shall include the \boxtimes measurement \boxtimes relevant process operation parameters of \boxtimes the \boxtimes oxygen content, temperature, pressure and water vapour content \boxtimes of the waste gases \boxtimes . The continuous measurement of the water vapour content of the exhaust \boxtimes waste \boxtimes gases shall not be necessary, provided that the sampled exhaust \boxtimes waste \boxtimes gas is dried before the emissions are analysed.
- 8. Representative measurements, i.e. Ssampling and analysis, of relevant pollutants polluting substances and process parameters as well as the quality assurance of automated measuring systems and the reference measurement methods to calibrate those 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

The automated

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

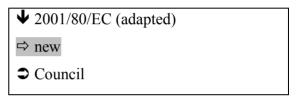
once per

vear.

◆ 2001/80/EC Art. 13 (adapted)

Article 13

Member States shall take appropriate measures to ensure that $\underline{\text{Thethe}}$ operator \boxtimes shall inform \boxtimes informs the competent \boxtimes authority \boxtimes authorities within reasonable time limits about the results of the continuous measurements, the checking of the \boxtimes automated \boxtimes measuring \boxtimes systems \boxtimes equipment, the individual measurements and all other measurements carried out in order to assess compliance with this Directive.



 $\underline{96}$. \boxtimes At the emission limit value level, \boxtimes 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%

<u>10</u>. 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 <u>in point</u> 2 <u>above</u>.

- <u>11.</u> Any day in which more than three hourly average values are invalid due to malfunction or maintenance of the <u>continuous</u> ⊠ automated measuring ⊠ <u>measurement</u> 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 <u>continuous monitoring</u> ⊠ automated measuring ⊠ system.
- <u>11. In the case of plants which must comply with the rates of desulphurisation referred to in Article 33a, also the sulphur content of the fuel which is fired in the combustion plant shall be regularly monitored. The competent authorities shall be informed of substantial changes in the type of fuel used.</u>

 □

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 SO₂ and NO₃ 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 SO₂ 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 SO₂, NO₂, 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 SO₂, NO_{*} 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 SO₂ and NO₄:

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 SO₂ and NO₂ 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.
 - \$\blacksquare\$ 2001/80/EC Art. 14 (adapted)
 \$\blacksquare\$ 1 Corrigendum, OJ L 319, 23.11.2002,
 \$\blacksquare\$ new

Part 4

oximes Assessment of compliance with the emission limit values oximes

Article 14

- 1. In the event of continuous measurements, the emission limit values set out in part A of Annexes

 III to VII shall be regarded as having been complied with 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:
 - (i) sulphur dioxide and dust: 97 % of all the 48 hourly mean values do not exceed 110 % of the emission limit values.
 - (ii) nitrogen oxides: 95 % of all the 48 hourly mean values do not exceed 110 % of the emission limit values.

The periods referred to in Article 7 as well as start-up and shut-down periods shall be disregarded.

- 2. In cases where only discontinuous measurements or other appropriate procedures are required, the emission limit values set out in Annexes III to VII 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.
- → 1 3. In the cases referred to in Article 5(2), the rates ← of desulphurisation shall be regarded as having been complied with if the evaluation of measurements carried out pursuant to Annex VIII, point A.3, indicates that all of the calendar monthly mean values or all of the rolling monthly mean values achieve the required desulphurisation rates.

The periods referred to in Article 7 as well as start-up and shut-down periods shall be disregarded.

- 4. For new plants for which the licence is granted pursuant to Article 4(2), 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

 Annexes III to VII. and

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

The 'validated average values' are determined as set out in point A.6 of Annex VIII.

The periods referred to in Article 7 as well as start up and shut down periods shall be disregarded.

□ new		
⊃ Council		

- 1. In the case of continuous measurements, the emission limit values set out in Parts 1 and 2 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 Parts 1 and 2;
 - (b) no validated daily average value exceeds 110 % of the relevant emission limit values set out in Parts 1 and 2;
 - (c) in cases of combustion plants composed only of boilers using coal with a rated thermal input below 50 MW, no validated daily average value exceeds 150 % of the relevant emission limit values set out in Parts 1 and 2,
 - (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 Parts 1 and 2.

The validated average values are determined as set out in point 10 of Part 3.

For the purpose of the calculation of the average emission values, the values measured during the periods referred to in Article 33(4) and (5) and Article 34 as well as during the start-up and shutdown periods shall be disregarded.

2. Where continuous measurements are not required, the emission limit values set out in Parts 1 and 2 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 5

Minimum rate of desulphurisation

1. Minimum rate of desulphurisation for combustion plants referred to in Article 33(2)

Rated thermal	Minimum rate of	desulphurisation
input (MW _{th})	Plants which were granted a permit before 27 November 2002	Plants which were granted a permit on or after 27 November 2002
50-100	80 %	92 %
100-300	<u>90 %</u>	<u>92 %</u>
> 300	<u>96 %</u>	<u>97 %</u>

2. Minimum rate of desulphurisation for combustion plants referred to in Article 33(3)

Rated thermal input (MW _{th})	Minimum rate of desulphurisation
50-100	93 %
100-300	93%
> 300	98 %



⊃ <u>Part 6</u>

Compliance with rate of desulphurisation

The minimum rates of desulphurisation set out in Part 5 of this Annex shall apply as a monthly average limit value.

- **▶** 2000/76/EC Art. 3 (adapted)
- →₁ Corrigendum, OJ L 145, 31.5.2001,

p. 52

ANNEX VI

$igtherapsup { ext{Technical provisions relating to waste incineration plants and waste co-incineration} \\ { ext{plants}} igtharpoonup { ext{plants}} igtharpoonup { ext{plants}}$

Part 1

Definitions

For the purpose of this **⋈** Annex the following definitions shall apply: **⋈** Directive:

- <u>€.</u> →₁
- - (in) which is was is in operation and has is had in accordance with it is applicable in accordance with its accordance with its
 - (iib) which ⊠ was ⊠ is authorised or registered for ⊠ waste ⊠ incineration or eoineineration and ⊠ had ⊠ has a permit issued before 28 December 2002 in accordance with ⊠ applicable ⊠ existing Community legislation, provided that the plant ⊠ was ⊠ is put into operation not later than 28 December 2003, or
 - (<u>iiie</u>) which, in the view of the competent authority, ⊠ was ⊠ is the subject of a full request for ⊠ authorisation ⊠ a permit, before 28 December 2002, provided that the plant ⊠ was ⊠ is put into operation not later than 28 December 2004;

↓ new

(b) 'new waste incineration plant' means any waste incineration plant not covered by point (a).

↓ 2000/76/EC (adapted)

ANNEX I Part 2

Equivalence factors for dibenzo-p-dioxins and dibenzofurans

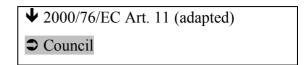
For the determination of the total concentration (TE) of dioxins and furans, the mass concentrations of the following dibenzo-p-dioxins and dibenzofurans shall be multiplied by the following equivalence factors before summing:

	Toxic equivalence factor
2,3,7,8 — Tetrachlorodibenzodioxin (TCDD)	1
1,2,3,7,8 — Pentachlorodibenzodioxin (PeCDD)	0,5
1,2,3,4,7,8 — Hexachlorodibenzodioxin (HxCDD)	0,1
1,2,3,6,7,8 — Hexachlorodibenzodioxin (HxCDD)	0,1
1,2,3,7,8,9 — Hexachlorodibenzodioxin (HxCDD)	0,1
1,2,3,4,6,7,8 — Heptachlorodibenzodioxin (HpCDD)	0,01
Octachlorodibenzodioxin (OCDD)	0,001
2,3,7,8 — Tetrachlorodibenzofuran (TCDF)	0,1
2,3,4,7,8 — Pentachlorodibenzofuran (PeCDF)	0,5
1,2,3,7,8 — Pentachlorodibenzofuran (PeCDF)	0,05
1,2,3,4,7,8 — Hexachlorodibenzo furan (HxCDF)	0,1

1,2,3,6,7,8 — Hexachlorodibenzofuran (HxCDF)	0,1
1,2,3,7,8,9 — Hexachlorodibenzofuran (HxCDF)	0,1
2,3,4,6,7,8 — Hexachlorodibenzofuran (HxCDF)	0,1
1,2,3,4,6,7,8 — Heptachlorodibenzofuran (HpCDF)	0,01
1,2,3,4,7,8,9 — Heptachlorodibenzofuran (HpCDF)	0,01
Octachlorodibenzofuran (OCDF)	0,001

Part 3 ANNEX V

☒ Air emission limit values for waste incineration plants **☒**



<u>18</u>. The results of the measurements made to verify compliance with the emission limit values shall be standardised at the following conditions and for oxygen according to the formula as referred to in Annex VI:

All emission limit values shall be calculated at a

✓

 $\underline{\text{(a)}}$ <u>tT</u>emperature \boxtimes of 273,15 K \boxtimes <u>273 K</u>, \boxtimes a \boxtimes pressure \boxtimes of \boxtimes 101,3 kPa \boxtimes and after correcting for the water vapour content of the waste gases. \boxtimes <u>11 % oxygen, dry gas, in exhaust gas of incineration plants;</u>

(b) Temperature 273 K, pressure 101,3 kPa, 3 % oxygen, dry gas, in exhaust gas of incineration of waste oil as defined in Directive 75/439/EEC;

Exists They are standardised at 11 % oxygen in waste gas except in case of incineration of mineral waste oil as defined in Article 3(h) of Directive 20../../EC, when they are standardised at 3 % oxygen, and in the cases referred to in Point 2.7 of Part □[...] □ □ 6 □ . ≪

◆ 2000/76/EC (adapted)

 $\underline{1.1(a)}$ Daily average \boxtimes emission limit \boxtimes values \boxtimes for the following polluting substances (mg/Nm^3) \boxtimes

Total dust	10 mg/m³
Gaseous and vaporous organic substances, expressed as total organic carbon	10 mg/m³
Hydrogen chloride (HCl)	10 mg/m³
Hydrogen fluoride (HF)	1 mg/m³
Sulphur dioxide (SO ₂)	50 mg/m³
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as ⊠ NO ₂ ⊠ nitrogen dioxide for existing ⊠ waste ⊠ incineration plants with a nominal capacity exceeding 6 tonnes per hour or new ⊠ waste ⊠ incineration plants	200 mg/m³[±]
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as ⋈ NO ₂ ⋈ nitrogen dioxide for existing ⋈ waste ⋈ incineration plants with a nominal capacity of 6 tonnes per hour or less	400 mg/m^{3²}

Exemptions for NO_x may be authorised by the competent authority for existing incineration plants:

with a nominal capacity of 6 tonnes per hour, provided that the permit foresees the daily
 average values do not exceed 500 mg/m² and this until 1 January 2008,

_

Until 1 January 2007 and without prejudice to relevant (Community) legislation the emission limit value for NO_{*} does not apply to plants only incinerating hazardous waste.

Until 1 January 2007 and without prejudice to relevant (Community) legislation the emission limit value for NO_{*} does not apply to plants only incinerating hazardous waste.

- with a nominal capacity of >6 tonnes per hour but equal or less than 16 tonnes per hour,
 provided the permit foresees the daily average values do not exceed 400 mg/m³ and this until 1 January 2010,
- with a nominal capacity of >16 tonnes per hour but <25 tonnes per hour and which do not produce water discharges, provided that the permit foresees the daily average values do not exceed 400 mg/m² and this until 1 January 2008.

Until 1 January 2008, exemptions for dust may be authorised by the competent authority for existing incinerating plants, provided that the permit foresees the daily average values do not exceed 20 mg/m³.

<u>1.2⊕</u> Half-hourly average \boxtimes emission limit \boxtimes values \boxtimes for the following polluting substances (mg/Nm³) \boxtimes

	(100 %) A	(97 %) B		
Total dust	30 mg/m³	10 mg/m³		
Gaseous and vaporous organic substances, expressed as total organic carbon ☒ (TOC) ☒	20 mg/m³	10 mg/m³		
Hydrogen chloride (HCl) 60 mg/m³ 10 #				
Hydrogen fluoride (HF)	4 mg/m³	2 mg/m³		
Sulphur dioxide (SO ₂)	200 mg/m³	50 mg/m³		
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as ⋈ NO ₂ ⋈ nitrogen dioxide for existing ⋈ waste ⋈ incineration plants with a nominal capacity exceeding 6 tonnes per hour or new ⋈ waste ⋈ incineration plants	400 mg/m³ [‡]	200 mg/m^{3²}		

Until 1 January 2007 and without prejudice to relevant Community legislation the emission limit value for NO_{**} does not apply to plants only incinerating hazardous waste.

Until 1 January 2007 and without prejudice to relevant Community legislation the emission limit value for NO_{*} does not apply to plants only incinerating hazardous waste.

Until 1 January 2010, exemptions for NO_x may be authorised by the competent authority for existing incineration plants with a nominal capacity between 6 and 16 tonnes per hour, provided the half hourly average value does not exceed 600 mg/m² for column A or 400 mg/m² for column B.

<u>1.3(e)</u> All <u>Ae</u>verage \boxtimes emission limit \boxtimes values \boxtimes (mg/Nm³) for the following heavy metals \boxtimes over the sample \boxtimes a sampling \boxtimes period of a minimum of 30 minutes and a maximum of 8 hours

Cadmium and its compounds, expressed as cadmium (Cd)	Total <u>:</u> 0,05 mg/m³	total 0,1 mg/m ³⁻¹
Thallium and its compounds, expressed as thallium (Tl)		
Mercury and its compounds, expressed as mercury (Hg)	0,05 mg/m³	0,1 mg/m ³⁻²
Antimony and its compounds, expressed as antimony (Sb)	Total <u>:</u> 0,5 mg/m³	total 1 mg/m ²⁻³
Arsenic and its compounds, expressed as arsenic (As)		
Lead and its compounds, expressed as lead (Pb)		
Chromium and its compounds, expressed as chromium (Cr)		
Cobalt and its compounds, expressed as cobalt (Co)		
Copper and its compounds, expressed as copper (Cu)		
Manganese and its compounds, expressed as manganese (Mn)		
Nickel and its compounds, expressed as nickel (Ni)		
Vanadium and its compounds, expressed as vanadium (V)		

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ANNEX VI DG I **EN**

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Until 1 January 2007 average values for existing plants for which the permit to operate has been granted before 31 December 1996, and which incinerate hazardous waste only.

Until 1 January 2007 average values for existing plants for which the permit to operate has been granted before 31 December 1996, and which incinerate hazardous waste only.

Until 1 January 2007 average values for existing plants for which the permit to operate has been granted before 31 December 1996, and which incinerate hazardous waste only.

These average values cover also \boxtimes the \boxtimes gaseous and the vapour forms of the relevant heavy metal emissions as well as their compounds.

<u>1.4(d)</u> Average \boxtimes emission limit \boxtimes value \boxtimes (ng/Nm³) for dioxins and furans \boxtimes shall be measured over a \boxtimes sampling \boxtimes sample period of a minimum of 6 hours and a maximum of 8 hours. The emission limit value refers to the total concentration of dioxins and furans calculated using the concept of toxic equivalence in accordance with <u>Part 2 Annex I</u>.

Dioxins and furans	0,1 ng/m³
--------------------	----------------------

<u>1.5(e)</u> The following <u>Ee</u>mission limit values \boxtimes (mg/Nm³) for \boxtimes earbon monoxide (CO) eoneentrations shall not be exceeded in the \boxtimes waste \boxtimes eombustion gases (excluding the start-up and shut-down phase):

- (a) 50 milligrams/m² of combustion gas determined as daily average value;
- (b) 100 mg/m³ of combustion gas of all measurements determined as half-hourly average values taken in any 24 hour period.
- (c) 150 milligrams/m² of combustion gas of at least 95 % of all measurements determined as 10-minute average value<u>s</u> or 100 mg/m² of combustion gas of all measurements determined as half-hourly average values taken in any 24-hour period.
- \boxtimes The competent authority may authorise \boxtimes <u>eE</u>xemptions \boxtimes from the emission limit values set out in this point \boxtimes may be authorised by the competent authority for \boxtimes waste \boxtimes incineration plants using fluidised bed technology, provided that the permit \boxtimes sets \boxtimes foresees an emission limit value for carbon monoxide (CO) of not more than $100 \frac{\text{mg/m}^2}{\text{mg/Nm}^3} \boxtimes$ as an hourly average value.

♦ 2000/76/EC Art. 13 (adapted)

≥ 2. Emission limit values applicable in the circumstances described in Articles 41 (5) and 42. <

<u>4.</u> The total dust \boxtimes concentration in \boxtimes content of the emissions into the air of an \boxtimes a waste \boxtimes incineration plant shall under no circumstances exceed 150 mg/m² \boxtimes mg/Nm³ \boxtimes expressed as a half-hourly average incineration plant shall under no circumstances exceed 150 mg/m² \boxtimes mg/Nm³ \boxtimes expressed as a half-hourly average is moreover Thethe air emission limit values for \boxtimes TOC and \boxtimes CO and TOC \boxtimes set out in points 1.2 and 1.5(b) \boxtimes shall not be exceeded. All other conditions referred to in Article 6 shall be complied with.

 $\underline{\bigoplus} 3$ Member States may lay down rules governing the exemptions provided for in this Annex.

ANNEX II Part 4

Determination of air emission limit values for the co-incineration of waste

<u>1.</u> The following formula (mixing rule) \boxtimes shall \boxtimes is to be applied whenever a specific total emission limit value «C» has not been set out in a table in this Part Annex.

The \boxtimes emission \boxtimes limit value for each relevant pollutant \boxtimes polluting substance \boxtimes and \boxtimes CO \boxtimes earbon monoxide in the \boxtimes waste \boxtimes exhaust gas resulting from the co-incineration of waste shall be calculated as follows:

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

V _{waste}	÷	exhaust ⋈ waste ⋈ gas volume resulting from the incineration of waste only determined from the waste with the lowest calorific value specified in the permit and standardised at the conditions given by this Directive. If the resulting heat release from the incineration of hazardous waste amounts to less than 10 % of the total heat released in the plant, V _{waste} must be calculated from a (notional) quantity of waste that, being incinerated, would equal 10 % heat release, the total heat release being fixed.
C _{waste}	:	emission limit values set for ⊠ waste ⊠ incineration plants ⊠ set out ⊠ in Part 3 Annex V for the relevant pollutants and carbon monoxide.

V _{proc}	:	exhaust \(\omega\) waste \(\omega\) gas volume resulting from the plant process including the combustion of the authorised fuels normally used in the plant (wastes excluded) determined on the basis of oxygen contents at which the emissions must be standardised as \(\omega\) set out \(\omega\) legislation \(\omega\) legislation \(\omega\) regulations. In the absence of \(\omega\) legislation \(\omega\) regulations for this kind of plant, the real oxygen content in the \(\omega\) waste \(\omega\) exhaust gas without being thinned by addition of air unnecessary for the process must be used. The standardisation at the other conditions is given in this Directive.
C _{proc}	:	emission limit values as \boxtimes set out in \boxtimes laid down in the tables of this \boxtimes Part \boxtimes annex for certain industrial \boxtimes activities \boxtimes sectors or in case of the absence of such a table or such values, emission limit values of the relevant pollutants and earbon monoxide in the flue gas of plants which comply with the national laws, regulations and administrative provisions for such plants while burning the normally authorised fuels (wastes excluded). In the absence of these measures the emission limit values \boxtimes set out \boxtimes laid down in the permit are used. In the absence of such permit values the real mass concentrations are used.

total emission limit values ☒ at an ☒ and oxygen content as ☒ set out ☒ laid down in the tables of this ☒ Part ☒ annex for certain industrial ☒ activities ☒ sectors and certain ☒ polluting substances ☒ pollutants or in case of the absence of such a table or such values total emission limit values for CO and the relevant pollutants replacing the emission limit values as ☒ set out ☒ laid down in specific Annexes of this Directive. The total oxygen content to replace the oxygen content for the standardisation is calculated on the basis of the content above respecting the partial volumes. ☒ All emission limit values shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correcting for the water vapour content of

Member States may lay down rules governing the exemptions provided for in this Part Annex.

2.H.1. Special provisions for cement kilns co-incinerating waste

the waste gases.

Daily average values (for continuous measurements) Sample periods and other measurement requirements as in Article 7. All values in mg/m² (Dioxins and furans ng/m²).

 $\underline{2.1}$ \boxtimes The emission limit values set out in points 2.2 and 2.3 apply as daily average values for total dust, HCI, HF, NO_x, SO₂ and TOC (for continuous measurements), as average values over the sampling period of a minimum of 30 minutes and a maximum of 8 hours for heavy metals and as average values over the sampling period of a minimum of 6 hours and a maximum of 8 hours for dioxins and furans. \boxtimes

The results of the measurements made to verify compliance with the emission limit

All

values

are

shall be standardised at the following conditions: Temperature 273 K, pressure

101.3 kPa, 10 % oxygen, dry gas.

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

 $\underline{2.2}$ H.1.1 C - total emission limit values \boxtimes (mg/Nm³ except for dioxins and furans) for the following polluting substances \boxtimes

Pollutant ⊠ Polluting substance ⊠	С
Total dust	30
HC1	10
HF	1
NO _* for existing plants	800
NO _x for new plants	⇒ 500 ⇔ ¹
Cd + Tl	0,05
Нд	0,05
Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V	0,5
Dioxins and furans ☒ (ng/Nm³) ☒	0,1

Until 1 January 2008, exemptions for NO_{**}may be authorised by the competent authorities for existing wet process cement kilns or cement kilns which burn less than three tonnes of waste per hour, provided that the permit foresees a total emission limit value for NO_{**} of not more than 1200 mg/m².

For the implementation of the NO_x emission limit values, eement kilns which are in operation and have a permit in accordance with existing Community legislation and which start coincinerating waste after the date mentioned in Article 20(3) are not to be regarded as new plants. Until 1 January 2016, the competent authority may authorise exemptions from the limit value for NOx for Lepol kilns and long rotary kilns provided that the permit sets a total emission limit value for NOx of not more than 800 mg/Nm3.

Until 1 January 2008, exemptions for dust may be authorised by the competent authority for cement kilns which burn less than three tonnes of waste per hour, provided that the permit foresees a total emission limit value of not more than 50 mg/m².

2.3 $\frac{\text{H.1.2.}}{\text{C}}$ C - total emission limit values \boxtimes (mg/Nm³) \bigotimes for SO₂ and TOC

Pollutant	С
SO_2	50
TOC	10

Exemptions may be authorised by Thethe competent authority \boxtimes may grant derogations for emission limit values set out in this point \boxtimes in cases where TOC and SO₂ do not result from the incineration of waste.

⊃ 2.4 C- Total emission limit values for CO

The competent authority may set emission limit values for CO.

II.1.3. Emission limit value for CO

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

3. H.2. Special provisions for combustion plants co-incinerating waste

3.1 H.2.1. \boxtimes C_{proc} expressed as \boxtimes daily average values \boxtimes (mg/Nm³) \boxtimes \Rightarrow valid until 31 December 2015 \Leftarrow

Without prejudice to Directive 88/609/EEC and in the case where, for large combustion plants, more stringent emission limit values are set according to future Community legislation, the latter shall replace, for the plants and pollutants concerned, the emission limit values as laid down in the following tables (C_{proc}). In that case, the following tables shall be adapted to these more stringent emission limit values in accordance with the procedure laid down in Article 17 without delay. \boxtimes For determining the rated thermal input of the combustion plants, the aggregation rules as defined in Article 32 shall apply. \boxtimes

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

 C_{proc} : $C_{\text{proc}} \text{ for solid fuels } \boxtimes \text{ with the exception of biomass } \boxtimes \text{ } \underbrace{\text{expressed in mg/Nm}^2} (O_2 \text{ content } 6 \%):$

Pollutant ➤ Polluting substances ➤	< 50 MWth	50-100 MWth	100 to 300 MWth	> 300 MWth
SO_2	-	≥ 850 <	≥ 200 <	≥ 200 <
general case		850	850 to 200	200
			(linear decrease from 100 to 300 MWth)	
indigenous fuels		or rate of desulphurisation ≥90 %	or rate of desulphurisation ≥92 %	or rate of desulphurisation ≥95 %
NO _x	-	400	≥ 200 < 300	200
Dust	50	50	30	30

Until 1 January 2007 and without prejudice to relevant Community legislation, the emission limit value for NO_x does not apply to plants only co incinerating hazardous waste.

Until 1 January 2008, exemptions for NO_{**} and SO_{**} may be authorised by the competent authorities for existing co-incineration plants between 100 and 300 MWth using fluidised bed technology and burning solid fuels provided that the permit foresees a C_{proc} value of not more than 350 mg/Nm³ for NO_{**} and not more than 850 to 400 mg/Nm³ (linear decrease from 100 to 300 MWth) for SO₂.

C_{proc} for biomass expressed in mg/Nm² (O₂ content 6 %):

«Biomass» means: products consisting of any whole or part of a vegetable matter from agriculture or forestry, which can be used for the purpose of recovering its energy content as well as wastes listed in Article 2(2)(a)(i) to (v).

Pollutant Soluting substances ✓	< 50 MWth	50 to 100 MWth	100 to 300 MWth	> 300 MWth
SO_2	-	200	200	200
NO _x	-	350	300	≥ 200 <≥ 300
Dust	50	50	30	30

Until 1 January 2008, exemptions for NO_{**} may be authorised by the competent authorities for existing co-incineration plants between 100 and 300 MWth using fluidised bed technology and burning biomass provided that the permit foresees a C_{proc} value of not more than 350 mg/Nm².

C_{proc} for liquid fuels expressed in mg/Nm² (O₂ content 3 %):

Pollutant	< 50 MWth	50 to 100 MWth	100 to 300 MWth	> 300 MWth
SO_2	-	850		200
			(linear decrease from 100 to 300 MWth)	
NO _x	-	400	≥ 200	200
Dust	50	50	30	30

↓ new

3.2 C_{proc} expressed as daily average values (mg/Nm³) valid from 1 January 2016 on

For determining the rated thermal input of the combustion plants, the aggregation rules as defined in Article 32 shall apply. Half-hourly average values shall only be needed in view of calculating the daily average values.

3.2.1 C_{proc} for combustion plants referred to in Article 33(2)

C_{proc} for solid fuels with the exception of biomass (O₂ content 6 %):

Polluting substance	< 50 MWth	50-100 MWth	100 to 300 MWth	> 300 MWth
SO_2	-	400 for peat: 300	200	200
NO _x	-	300 for pulverized lignite: 400	200	200
Dust	50	30	25 for peat: 20	20

C_{proc} for biomass (O₂ content 6 %):

Polluting substance	< 50 MWth	50 to 100 MWth	100 to 300 MWth	> 300 MWth
SO_2	-	200	200	200
NO _x	-	300	250	200
Dust	50	30	20	20

C_{proc} for liquid fuels (O₂ content 3 %):

Polluting substance	< 50 MWth	50 to 100 MWth	100 to 300 MWth	> 300 MWth
SO_2	ł	350	250	200
NO_x	H	400	200	150
Dust	50	30	25	20

3.2.2 C_{proc} for combustion plants referred to in Article 33(3)

C_{proc} for solid fuels with the exception of biomass (O₂ content 6 %):

Polluting substance	< 50 MWth	50-100 MWth	100 to 300 MWth	> 300 MWth
SO_2	-	400	200	150
		for peat: 300	for peat: 300, except in the case of fluidized bed combustion: 250	for circulating or pressurized fluidized bed combustion or, in case of peat firing, for all fluidized bed combustion: 200
NO _x	ł	300	200	150
		for peat: 250		for pulverized lignite combustion: 200
Dust	50	20	20	10
				for peat: 20

C_{proc} for biomass (O₂ content 6 %):

Polluting substance	< 50 MWth	50 to 100 MWth	100 to 300 MWth	> 300 MWth
SO_2	-	200	200	150
				for fluidized bed combustion: 200
NO_x	-	250	200	150
Dust	50	20	20	20

C_{proc} for liquid fuels (O₂ content 3 %):

Polluting substance	< 50 MWth	50 to 100 MWth	100 to 300 MWth	> 300 MWth
SO_2	H	350	200	150
NO_x	H	300	150	100
Dust	50	30	25	20

▶ 2000/76/EC (adapted)

→₁ Corrigendum, OJ L 145, 31.5.2001,

p. 52

 $\underline{3.3 \text{H.2.2}}$. C — total emission limit values \boxtimes for heavy metals (mg/Nm³) \boxtimes

€ expressed \boxtimes as \boxtimes in mg/Nm³ (O₂-content 6 %). All average values over the \boxtimes sampling \boxtimes sample period of a minimum of 30 minutes and a maximum of 8 hours \boxtimes (O₂ content 6% for solid fuels and 3% for liquid fuels) \boxtimes .

Pollutant ⊠ Polluting substances ⊠	С
Cd + Tl	0,05
Нд	0,05
Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V	0,5

≥ 3.4 C - total emission limit value (ng/Nm³) for dioxins and furans ≥

Pollutant ⋈ Polluting substance ⋈	C
Dioxins and furans	0,1

 $\underline{4H.3}$. Special provisions for \boxtimes co-incineration plants in \boxtimes industrial sectors not covered under Points 2 and 3 of this Part $\underline{H.1}$ or $\underline{H.2}$ co-incinerating waste

 $\underline{4H-3}$.1. C — total emission limit values \boxtimes (ng/Nm³) \boxtimes

€ \boxtimes for dioxins and furans \boxtimes expressed \boxtimes as \boxtimes in ng/Nm². All average value measured over the \boxtimes sampling \boxtimes sample period of a minimum of 6 hours and a maximum of 8 hours:

Pollutant → Polluting substance →	С
Dioxins and furans	0,1

≥ 4.2 C – total emission limit values (mg/Nm³) for heavy metals ≥

C expressed \boxtimes as \boxtimes in mg/Nm³. All average values over the \boxtimes sampling \boxtimes sample period of a minimum of 30 minutes and a maximum of 8 hours:

Pollutant → Polluting substances →	С
Cd + Tl	0,05
Нд	0,05

Part 5 ANNEX IV

Polluting substances	Emission limit values expressed in mass concentrations for unfiltered samples ⊠ (mg/l except for dioxins and furans) ⟨⊠	
1. Total suspended solids as defined by in Annex I of Directive 91/271/EEC	(95 %) <u>{</u> 30 mg/l}	(100 %) <u>£</u> 45 mg/l)
2. Mercury and its compounds, expressed as mercury (Hg)	0,03 mg/l	
3. Cadmium and its compounds, expressed as cadmium (Cd)	0,05 mg/l	
4. Thallium and its compounds, expressed as thallium (Tl)	0,05 mg/l	
5. Arsenic and its compounds, expressed as arsenic (As)	0,15 mg/l	
6. Lead and its compounds, expressed as lead (Pb)	0,2 mg/l	
7. Chromium and its compounds, expressed as chromium (Cr)	0,5 mg/l	

8. Copper and its compounds, expressed as copper (Cu)	0,5 mg/l
9. Nickel and its compounds, expressed as nickel (Ni)	0,5 mg/l
10. Zinc and its compounds, expressed as zinc (Zn)	1,5 mg/l
11. Dioxins and furans, defined as the sum of the individual dioxins and furans evaluated in accordance with Annex I	→ ₁ 0,3 ng/l ←

Until 1 January 2008, exemptions for total suspended solids may be authorised by the competent authority for existing incineration plants provided the permit foresees that 80 % of the measured values do not exceed 30 mg/l and none of them exceed 45 mg/l.

Part 6 ANNEX III

⋈ Monitoring of emissions **⋈**

1. Measurement techniques

1.1 Measurements for the determination of concentrations of air and water polluting substances

Shall

have to be carried out representatively.

<u>1.2</u> Sampling and analysis of all \boxtimes polluting substances \boxtimes pollutants including dioxins and furans as well as \boxtimes the quality assurance of automated measuring systems and the \boxtimes reference measurement methods to calibrate \boxtimes them \boxtimes automated measurement systems shall be carried out \boxtimes according to \boxtimes as given by CEN-standards. 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. \boxtimes Automated measuring systems shall be subject to control by means of parallel measurements with the reference methods at least once per year. \boxtimes

<u>1.3</u> At the daily emission limit value level, the values of the 95 % confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

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

◆ 2000/76/EC Art. 10

 $\underline{\underline{5}}$. Periodic measurements of the emissions into the air and water shall be carried out in accordance with $\underline{\underline{Annex\ III}}$ points $\underline{\underline{1.1}}$ and $\underline{\underline{1.2}}$.

Article 11

Measurement requirements

- ≥ 2. Measurements relating to air polluting substances ≥
- <u>2.1</u> The following measurements of \boxtimes relating to \boxtimes air \boxtimes polluting substances \boxtimes pollutants shall be carried out in accordance with Annex III at the incineration and co-incineration plant:
- (a) continuous measurements of the following substances: NO_x, provided that emission limit values are set, CO, total dust, TOC, HCl, HF, SO₂;
- (b) continuous measurements of the following process operation parameters: temperature near the inner wall or at another representative point of the combustion chamber as authorised by the competent authority, concentration of oxygen, pressure, temperature and water vapour content of the ⋈ waste ⋈ exhaust gas;

- (c) at least two measurements per year of heavy metals, dioxins and furans; one measurement at least every three months shall however be carried out for the first 12 months of operation. Member States may fix measurement periods where they have set emission limit values for polycyclic aromatic hydrocarbons or other pollutants.
- 2.23. The residence time as well as the minimum temperature and the oxygen content of the

 in waste incineration in incineration in its plant into service and under the most unfavourable operating conditions anticipated.
- 2.34. The continuous measurement of HF may be omitted if treatment stages for HCl are used which ensure that the emission limit value for HCl is not being exceeded. In this \boxtimes that \boxtimes case the emissions of HF shall be subject to periodic measurements as laid down in paragraph 2 \boxtimes point 2.1 \boxtimes (c).
- $\underline{2.45}$. The continuous measurement of the water vapour content shall not be required if the sampled \boxtimes waste \boxtimes exhaust gas is dried before the emissions are analysed.
- 2.56. Periodic measurements as laid down in paragraph 2(e) of HCl, HF and SO₂ instead of continuous measuring may be authorised in the permit by Thethe competent authority \boxtimes may decide not to require continuous measurements for HCl, HF and SO₂ in waste \boxtimes in incineration \boxtimes plants \boxtimes or \boxtimes waste \boxtimes co-incineration plants $_{\overline{z}}$ \boxtimes and require periodic measurements as set out in point 2.1(c) or \boxtimes \Longrightarrow no measurements \hookrightarrow if the operator can prove that the emissions of those pollutants can under no circumstances be higher than the prescribed emission limit values.

- \Rightarrow The competent authority may decide not to require continuous measurements for NO_x and require periodic measurements as set out in point 2.1(c) in existing waste incineration plants with a nominal capacity of less than 6 tonnes per hour or in existing waste co-incineration plants with a nominal capacity of less than 6 tonnes per hour if the operator can prove on the basis of information on the quality of the waste concerned, the technologies used and the results of the monitoring of emissions that the emissions of NO_x can under no circumstances be higher than the prescribed emission limit value. \Leftarrow
- 2.67. The ⇒ competent authority may decide to require ⊃[...] ⊂ ⊃ one measurement every two years ⊂ for heavy metals and ⊃ one measurement per year ⊂ for dioxins and furans ⇔ reduction of the frequency of the periodic measurements for heavy metals from twice a year to once every two years and for dioxins and furans from twice a year to once every year ⊠ in the following cases: ⊠ may be authorised in the permit by the competent authority provided that
- the emissions resulting from co-incineration or incineration

 of waste

 are

 under all circumstances

 below 50 % of the emission limit values; determined according to

 Annex II or Annex V respectively and provided that criteria for the requirements to be met,
 developed in accordance with the procedure laid down in Article 17, are available. These
 criteria shall at least be based on the provisions of the second subparagraph, points (a) and
 (d).

Until 1 January 2005 the reduction of the frequency may be authorised even if no such criteria are available provided that:

- (ba) the waste to be co-incinerated or incinerated consists only of certain sorted combustible fractions of non-hazardous waste not suitable for recycling and presenting certain characteristics, and which is further specified on the basis of the assessment referred to in point subparagraph (cd);
- (b) national quality criteria, which have been reported to the Commission, are available for these wastes;
- co incineration and incineration of these wastes is in line with the relevant waste management plans referred to in Article 7 of Directive 75/442/EEC;
- the operator can prove to the competent authority that the emissions are under all eircumstances significantly below the emission limit values set out in Annex II or Annex V for heavy metals, dioxins and furans; this assessment shall be based on \boxtimes the basis of \boxtimes information on the quality of the waste concerned and \boxtimes the monitoring \boxtimes measurements of the emissions of the said pollutants; \boxtimes that the emissions are under all circumstances significantly below the emission limit values for heavy metals, dioxins and furans; \boxtimes
- (e) the quality criteria and the new period for the periodic measurements are specified in the permit; and

- (f) all decisions on the frequency of measurements referred to in this paragraph, supplemented with information on the amount and quality of the waste concerned, shall be communicated on a yearly basis to the Commission.
- 2.78. The results of the measurements made to verify compliance with the emission limit values shall be standardised ⋈ using the standard oxygen concentrations mentioned in Part 3 or calculated according to Part 4 and by applying the formula given in Part 7. ⋈ at the following conditions and for oxygen according to the formula as referred to in Annex VI:
- (a) Temperature 273 K, pressure 101,3 kPa, 11 % oxygen, dry gas, in exhaust gas of incineration plants;
- (b) Temperature 273 K, pressure 101,3 kPa, 3 % oxygen, dry gas, in exhaust gas of incineration of waste oil as defined in Directive 75/439/EEC:
- <u>W</u>when the wastes are waste is waste is incinerated or co-incinerated in an oxygen-enriched atmosphere, the results of the measurements can be standardised at an oxygen content laid down by the competent authority reflecting the special circumstances of the individual case.

 i
- (d) in the ease of co-incineration, the results of the measurements shall be standardised at a total oxygen content as calculated in Annex II.

When the emissions of \boxtimes polluting substances \boxtimes pollutants are reduced by \boxtimes waste \boxtimes exhaust gas treatment in $\underset{\longleftarrow}{\mathbf{en}} \boxtimes$ a waste \boxtimes incineration \boxtimes plant \boxtimes or \boxtimes waste \boxtimes co-incineration plant treating hazardous waste, the standardisation with respect to the oxygen contents provided for in the first subparagraph shall be done only if the oxygen content measured over the same period as for the \boxtimes polluting substance \boxtimes pollutant concerned exceeds the relevant standard oxygen content.

- 3. Measurements relating to water polluting substances ■
- <u>14.</u> 3.1 The following measurements shall be carried out at the point of waste water discharge:
- (a) continuous measurements of ⊠ pH, temperature and flow ⊠ the parameters referred to in Article 8(6)(b):
- spot sample daily measurements of total suspended solids ⋈ or measurements of a flow proportional representative sample over a period of 24 hours; ⋈ ; Member States may alternatively provide for measurements of a flow proportional representative sample over a period of 24 hours;
- at least monthly measurements of a flow proportional representative sample of the discharge over a period of 24 hours of the polluting substances referred to in Article 8(3) with respect to items 2 to 10 in Annex IV \Bigsim Hg, Cd, TI, As, Pb, Cr, Cu, Ni and Zn; \Bigsim II.
- (d) at least every six months measurements of dioxins and furans; however one measurement at least every three months shall be carried out for the first 12 months of operation.

 Member States may fix measurement periods where they have set emission limit values for polycyclic aromatic hydrocarbons or other pollutants.

◆ 2000/76/EC Art. 8 (adapted)

<u>3.2</u> Where the waste water from the cleaning of $\underbrace{\text{exhaust}}$ \boxtimes waste \boxtimes gases is treated on site collectively with other on-site sources of waste water, the operator shall take the measurements referred to in Article 11:

- on the waste water stream from the waste waste waste waste gas cleaning processes prior to its input into the collective waste water treatment plant;
- (b) on the other waste water stream or streams prior to its or their input into the collective waste water treatment plant;
- (c) at the point of final waste water discharge, after the treatment, from the ☒ waste ☒ incineration plant or ☒ waste ☒ co-incineration plant.

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▶ 2000/76/EC (adapted)

Part 7 ANNEX VI

Formula to calculate the emission concentration at the standard percentage oxygen concentration

$$E_S = \frac{21 - O_S}{21 - O_M} \times E_M$$

Es	=	calculated emission concentration at the standard percentage oxygen concentration
E _M	=	measured emission concentration
Os		standard oxygen concentration
O_{M}	=	measured oxygen concentration

Part 8

oximes Assessment of compliance with emission limit values oximes

▶ 2000/76/EC Art. 11 (adapted)

□ 1. Air emission limit values
 □

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

- none of the daily average values exceeds any of the emission limit values set out in <u>point</u> $\underline{1.1 \text{ of Part 3 or in Part 4}} \underline{\text{Annex V(a) or Annex II}} \boxtimes \text{ or calculated in accordance with Part 4} \boxtimes ;$
 - 97 % of the daily average value over the year does not exceed the emission limit value set out in Annex V(e) first indent;
- (b) either none of the half-hourly average values exceeds any of the emission limit values set out in Annex V(b), column A of the table under point 1.2 of Part 3 or, where relevant, 97 % of the half-hourly average values over the year do not exceed any of the emission limit values set out in Annex V(b), column B of the table under point 1.2 of Part 3;
- none of the average values over the sample \boxtimes sampling \boxtimes period set out for heavy metals and dioxins and furans exceeds the emission limit values set out in <u>points 1.3 and 1.4 of Part 3 or in Part 4 Annex V(e) and (d) or Annex II</u> \boxtimes or calculated in accordance with Part 4 \boxtimes ;
- (d) the provisions of Annex V(e), second indent or Annex II, are met.

- ☒ (d) for carbon monoxide (CO): ☒
 - ☒ (i) in case of waste incineration plants: ☒
 - \(\times \) at least 97 % of the daily average values over the year do not exceed the emission limit value set out in point 1.5(a) of Part 3;

 - ➤ at least 95 % of all 10-minute average values taken in any 24-hour period or all of the half-hourly average values taken in the same period do not exceed the emission limit values set out in points 1.5(b) and (c) of Part 3 조
 - ☒ (ii) in case of waste co-incineration plants: the provisions of Part 4 are met. ☒

<u>1.2++</u>. The half-hourly average values and the 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-off ⊠ down ⊠ periods if no waste is being incinerated) from the measured values after having subtracted the value of the confidence interval specified in <u>point 1.3 of Part 6 point 3 of Annex III</u>. The daily average values shall be determined from those validated average values.

To obtain a valid daily average value no more than five half-hourly average values in any day shall be discarded due to malfunction or maintenance of the continuous measurement system. No more than ten daily average values per year shall be discarded due to malfunction or maintenance of the continuous measurement system.

<u>1.3+2</u>. The average values over the sample \boxtimes sampling \boxtimes period and the average values in the case of periodical measurements of HF, HCl and SO₂ shall be determined in accordance with the requirements of Articles 40(1)(e) and 43(3) Article 10(2) and (4) and Annex III point 1 of Part 6.

- 15. The monitoring of the mass of pollutants in the treated waste water shall be done in conformity with Community legislation and laid down in the permit as well as the frequency of the measurements.

The emission limit values for water shall be regarded as being complied with if:

- (a) for total suspended solids (polluting substance number 1), 95 % and 100 % of the measured values do not exceed the respective emission limit values as set out in <u>Part 5 Annex IV</u>;
- (b) for heavy metals

 (Hg, Cd, TI, As, Pb, Cr, Cu, Ni and Zn)

 (polluting substances number 2 to 10) no more than one measurement per year exceeds the emission limit values set out in Part 5 Annex IV; or, if the Member State provides for more than 20 samples per year, no more than 5 % of these samples exceed the emission limit values set out in Part 5 Annex IV;
- (c) for dioxins and furans (polluting substance 11), the twice-yearly measurement<u>s</u> ⊠ results ⊠ do not exceed the emission limit value set out in <u>Part 5</u> Annex IV.
- 17. Should the measurements taken show that the emission limit values for air or water laid down in this Directive have been exceeded, the competent authorities shall be informed without delay.

- **↓** 1999/13/EC (adapted)
- →₁ Corrigendum, OJ L 240, 10.9.1999,

p. 24

Council

ANNEX VIII

Part 1

☒ Activities **☒** SCOPE

This Annex contains the categories of activity referred to in Article 1. When operated above the thresholds listed in Annex IIA, the activities mentioned in this Annex fall within the scope of the Directive. In each case the \boxtimes 1. In each of the following points, the \boxtimes activity includes the cleaning of the equipment but not the cleaning of products unless specified otherwise.

2. Adhesive coating

Any activity in which an adhesive is applied to a surface, with the exception of adhesive coating and laminating associated with printing activities.

3. Coating activity

Any activity in which a single or multiple application of a continuous film of a coating is applied to:

- (a) ⊠ either of the following ⊠ vehicles as listed below:
 - new cars, defined as vehicles of category M1 in Council Directive 70/156/EEC of 6

 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers and of category N1 in so far as they are coated at the same installation as M1 vehicles 1;
 - (ii) truck cabins, defined as the housing for the driver, and all integrated housing for the technical equipment, of vehicles of categories N2 and N3 in Directive 70/156/EEC:
 - (iii) vans and trucks, defined as vehicles of categories N1, N2 and N3 in Directive 70/156/EEC, but not including truck cabins:
 - (iv) buses, defined as vehicles of categories M2 and M3 in Directive 70/156/EEC;
 - (v) trailers, defined in categories O1, O2, O3 and O4 in Directive 70/156/EEC;
- (b) metallic and plastic surfaces including surfaces of airplanes, ships, trains, etc.;
- (c) wooden surfaces:=
- (d) textile, fabric, film and paper surfaces;
- (e) leather.

OJ L 42, 23.2.1970, p. 1-15.

Existing activities do

Existing activity includes a step in which the same article is printed by whatever technique used, that printing step is considered part of the coating activity. However, printing activities operated as a separate activity are not included, but may be covered by

Existing activities operated as a separate activity are not included, but may be covered by

Existing activities operated as a separate activity falls within the scope thereof.

4. Coil coating

Any activity where coiled steel, stainless steel, coated steel, copper alloys or aluminium strip is coated with either a film forming or laminate coating in a continuous process.

5. Dry cleaning

Any industrial or commercial activity using <u>volatile organic compounds</u> <u>VOCs</u> in an installation to clean garments, furnishing and similar consumer goods with the exception of the manual removal of stains and spots in the textile and clothing industry.

6. Footwear manufacture

Any activity of producing complete footwear or parts thereof.

7. Manufacturing of coating \boxtimes mixtures \boxtimes preparations, varnishes, inks and adhesives

The manufacture of the above final products, and of intermediates where carried out at the same site, by mixing of pigments, resins and adhesive materials with organic solvent or other carrier, including dispersion and predispersion activities, viscosity and tint adjustments and operations for filling the final product into its container.

<u>8.</u> Manufacturing of pharmaceutical products

The chemical synthesis, fermentation, extraction, formulation and finishing of pharmaceutical products and, where carried out at the same site, the manufacture of intermediate products.

9. Printing

Any reproduction activity of text and/or images in which, with the use of an image carrier, ink is transferred onto whatever type of surface. It includes associated varnishing, coating and laminating techniques. However, only the following sub-processes are subject to <u>Chapter Vthe Directive</u>:

- (a) flexography a printing activity using an image carrier of rubber or elastic photopolymers on which the printing areas are above the non-printing areas, using liquid inks which dry through evaporation:
- (b) heatset web offset a web-fed printing activity using an image carrier in which the printing and non-printing area are in the same plane, where web-fed means that the material to be printed is fed to the machine from a reel as distinct from separate sheets. The non-printing area is treated to attract water and thus reject ink. The printing area is treated to receive and transmit ink to the surface to be printed. Evaporation takes place in an oven where hot air is used to heat the printed material:
- (c) laminating associated to a printing activity the adhering together of two or more flexible materials to produce laminates:
- <u>(d)</u> publication rotogravure a rotogravure printing activity used for printing paper for magazines, brochures, catalogues or similar products, using toluene-based inks:

- rotogravure a printing activity using a cylindrical image carrier in which the printing area is below the non-printing area, using liquid inks which dry through evaporation. The recesses are filled with ink and the surplus is cleaned off the non-printing area before the surface to be printed contacts the cylinder and lifts the ink from the recesses:
- rotary screen printing a web-fed printing activity in which the ink is passed onto the surface to be printed by forcing it through a porous image carrier, in which the printing area is open and the non-printing area is sealed off, using liquid inks which dry only through evaporation. Web-fed means that the material to be printed is fed to the machine from a reel as distinct from separate sheets:
- (g) varnishing an activity by which a varnish or an adhesive coating for the purpose of later sealing the packaging material is applied to a flexible material.

10. Rubber conversion

Any activity of mixing, milling, blending, calendering, extrusion and vulcanisation of natural or synthetic rubber and any ancillary operations for converting natural or synthetic rubber into a finished product.

11. Surface cleaning

Any activity except dry cleaning using organic solvents to remove contamination from the surface of material including degreasing. A cleaning activity consisting of more than one step before or after any other activity shall be considered as one surface cleaning activity. This activity does not refer to the cleaning of the equipment but to the cleaning of the surface of products.

12. Vegetable oil and animal fat extraction and vegetable oil refining activities

Any activity to extract vegetable oil from seeds and other vegetable matter, the processing of dry residues to produce animal feed, the purification of fats and vegetable oils derived from seeds, vegetable matter and/or animal matter.

13. Vehicle refinishing

Any industrial or commercial coating activity and associated degreasing activities performing \boxtimes either of the following \boxtimes :

- (a) the original coating of road vehicles as defined in Directive 70/156/EEC or part of them with refinishing-type materials, where this is carried out away from the original manufacturing line:
- the coating of trailers (including semi-trailers) (category O \boxtimes in Directive 70/156/EEC \bigotimes).

14. Winding wire coating

Any coating activity of metallic conductors used for winding the coils in transformers and motors, etc.

15. Wood impregnation

Any activity giving a loading of preservative in timber.

16. Wood and plastic lamination

Any activity to adhere together wood and/or plastic to produce laminated products.

Part 2 ANNEX IIA

$\underline{\mathbf{L}}$ Thresholds and emission \boxtimes limit values \boxtimes controls

31. Standard conditions shall mean

→ The emission limit values in waste gases shall be calculated at
→ a temperature of 273 = 15 K and
→ ,
→

 \bigcirc and \bigcirc a pressure of $101_{\underline{\underline{}}}$ 3 kPa \boxtimes \bigcirc [...] \bigcirc \boxtimes $\underline{\underline{}}$

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in	Emission limit values in waste gases (mg C/Nm³)	Fugitive emission Imit Values		≥ limit ≥ values (percentage of solvent		Special provisions
		tonnes/year)		New installati ons ⊠	Existing install ations	New installati ons	Existing installa tions	
1	Heatset web offset printing (> 15)	15—25 > 25	100 20	30 (¹) 30 (¹)				(¹) Solvent residue in finished product is not to be considered as part of fugitive emissions.
2	Publication rotogravure		75	10	15			
	(> 25)							

3	Other rotogravure, flexography, rotary screen printing, laminating or varnishing units (> 15) rotary screen printing on textile/cardboard (> 30)	15—25 > 25 > 30 (¹)	100 100 100	25 20 20	(¹) Threshold for rotary screen printing on textile and on cardboard.
4	Surface cleaning ⊠ using compounds specified in Article 54(5) ☑ Article 5(6) and (8). (**) (> 1)	1—5 > 5	20 (¹²) 20 (¹²)	15 10	(12/2) Limit ⊠ value ⊠ refers to mass of compounds in mg/Nm³, and not to total carbon.
5	Other surface cleaning (> 2)	2—10 > 10	75 (¹) 75 (¹)	20 (¹) 15 (¹)	(1) Installations which demonstrate to the competent authority that the average organic solvent content of all cleaning material used does not exceed 30 % by weight are exempt from application of these values.

6	Vehicle coating (< 15) and vehicle refinishing	> 0,5	50 (¹)	25		(¹) Compliance in accordance with Article 9(3) point 2 of Part 8 Shall Should be demonstrated based on 15 minute average measurements.
7	Coil coating (> 25)		50 (1)	5	10	(¹) For installations which use techniques which allow reuse of recovered solvents, the emission limit

8	Other coating, including metal, plastic, textile (5), fabric, film and paper coating	5—15 > 15	100 (¹) (⁴) 50/75 (²) (³) (⁴)	→ ₁ 25 (⁴) ← 20 (⁴)	(¹) Emission limit value applies to coating application and drying processes operated under contained conditions.
	(> 5)				(²) The first emission limit value applies to drying processes, the second to coating application processes.
					(³) For textile coating installations which use techniques which allow reuse of recovered solvents, the emission limit ☒ value ☒ applied to coating application and drying processes taken together shall be 150.
					(4) Coating activities which cannot be applied ⊠ carried out ⊠ under contained conditions (such as shipbuilding, aircraft painting) may be exempted from these values, in accordance with Article <u>5(3)(b)</u> <u>54(3)</u> .
					(5) Rotary screen printing on textile is covered by activity No 3.

9	Winding wire coating (> 5)				10 g/kg (¹) 5 g/kg (²)	 (¹) Applies for installations where average diameter of wire ≤ 0,1 mm. (²) Applies for all other installations.
10	Coating of wooden surfaces (> 15)	15—25 > 25	100 (¹) 50/75 (²)	25 20		(¹) Emission limit 🗵 value 🖾 applies to coating application and drying processes operated under contained conditions. (²) The first value applies to drying processes, the second to coating application processes.

11	Dry cleaning			20 g/kg (¹) (²) (²)	(1) Expressed in mass of solvent emitted per kilogram of product cleaned and dried. (2) The emission limit \(\bigsiz \) value \(\bigsiz \) in \(\frac{\text{Article 5(8)}}{\text{point 2 of Part 4}} \) does not apply for this \(\frac{\text{sector}}{\text{ \infty}} \) activity \(\bigsiz \). (2) The following exemption refers only to Greece: the total emission limit value does not apply, for a period of 12 years after the date on which this Directive is brought into effect, to existing installations located in remote areas and/or islands, with a population of no more than 2 000 permanent inhabitants where the use of advanced technology equipment is not economically feasible.
12	Wood impregnation (> 25)	100 (1)	45	11 kg/m ³	(¹) ★ Emission limit value ★ dDoes not apply for impregnation with creosote.

13	Coating of leather (> 10)	10—25 > 25			85 g/m ² 75 g/m ²	Emission limits \(\) limit values \(\) are expressed in grams of solvent emitted per m ² of product produced.
		> 10 (1)			150 g/m ²	(1) For leather coating activities in furnishing and particular leather goods used as small consumer goods like bags, belts, wallets, etc.
14	Footwear manufacture (> 5)				25 g per pair	Total emission limit values are ⊠ value is ⊠ expressed in grams of solvent emitted per pair of complete footwear produced.
15	Wood and plastic lamination				30 g/m ²	
	(> 5)					
16	Adhesive coating (> 5)	5—15 > 15	50 (¹) 50 (¹)	25 20		(1) If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150.

17	Manufacture of coating	100—1 000 > 1 000	150 150	5 3	5 % of solvent input 3 % of solvent input	The fugitive emission 🗵 limit 🗵 value does not include solvent sold as part of a coatings 🖾 mixture 🖾 preparation in a sealed container.
18	Rubber conversion (> 15)		20 (1)	25 (²)	25 % of solvent input	(¹) If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150. (²) The fugitive emission ☒ limit ☒ value does not include solvent sold as part of products or preparations ☒ mixtures ☒ in a sealed container.

19	Vegetable oil and animal fat extraction and vegetable oil refining activities		Animal fat: 1,5 kg/tonne	(¹) Total emission limit values for installations processing individual batches of seeds and other vegetable
	(> 10)		Castor: 3 kg/tonne	matter should be set by the competent authority on a case-by-case basis, applying the best available techniques.
			Rape seed: 1 kg/tonne	(²) Applies to all fractionation processes excluding de-gumming (the
			Sunflower seed: 1 kg/tonne	removal of gums from the oil).
			Soya beans (normal crush): 0,8 kg/tonne	(³) Applies to de-gumming.
			Soya beans (white flakes): 1,2 kg/tonne	
			Other seeds and other vegetable matter: 3 kg/tonne (¹) 1,5 kg/tonne (²) 4 kg/tonne (³)	

20	Manufacturing of pharmaceutical products (> 50)	20 (¹)	5 (2)	15 (2)	5 % of solvent input	15 % of solvent input	(1) If techniques are used which allow reuse of recovered solvent, the emission limit value in waste gases shall be 150.
							(²) The fugitive emission limit value does not include solvent sold as part of products or ⊠ mixtures ⊠ preparations in a sealed container.

Part 3

H. ⊠ Emission limit values for installations of ⊠ the vehicle coating industry

- <u>1.</u> The total emission limit values are expressed in terms of grams of \boxtimes organic \boxtimes solvent emitted in relation to the surface area of product in square metres and in kilograms of \boxtimes organic \boxtimes solvent emitted in relation to the car body.
- $\underline{2}$. The surface area of any product dealt with in the table \boxtimes under point 3 \boxtimes below is defined as follows:
 - the surface area calculated from the total electrophoretic coating area, and the surface area of any parts that might be added in successive phases of the coating process which are coated with the same coatings as those used for the product in question, or the total surface area of the product coated in the installation.

The surface of the electrophoretic coating area is calculated using the ☒ following ☒ formula:

 $\frac{2 \times \text{total weight of product shell}}{\text{average thickness of metal sheet}}$

This method shall also be applied for other coated parts made out of sheets.

Computer aided design or other equivalent methods shall be used to calculate the surface area of the other parts added, or the total surface area coated in the installation.

<u>3.</u> The total emission limit values in the table below refers to all process stages carried out at the same installation from electrophoretic coating, or any other kind of coating process, through to the final wax and polish of topcoating inclusive, as well as solvent used in cleaning of process equipment, including spray booths and other fixed equipment, both during and outside of production time. The total emission limit value is expressed as the mass sum of organic compounds per m² of the total surface area of coated product and as the mass sum of organic compounds body.

Activity	Production threshold	Total emission limit value	
(solvent consumption threshold in tonnes/year)	(refers to annual production of coated item)	New installations ⊠	Existing installations
Coating of new cars (> 15)	> 5 000	45 g/m ² or 1,3 kg/body + 33 g/m ²	60 g/m ² or 1,9 kg/body + 41 g/m ²
	≤ 5 000 monocoque or > 3 500 chassis-built	90 g/m ² or 1,5 kg/body + 70 g/m ²	90 g/m ² or 1,5 kg/body + 70 g/m ²
		Total emission limit ⊠ value ⊠ (g/m²)	
Coating of new truck cabins (> 15)	≤ 5 000	65	85
	> 5 000	55	75
Coating of new vans and trucks (> 15)	≤ 2 500	90	120
	> 2 500	70	90
Coating of new buses (> 15)	≤ 2 000	210	290
	> 2 000	150	225

4. Vehicle coating installations below the solvent consumption thresholds ⋈ mentioned ⋈ in the table <u>under point 3above</u> shall meet the requirements for the vehicle refinishing sector ⋈ set out ⋈ in <u>Part 2 Annex HA</u>.

▶ 1999/13/EC Art. 5 (adapted)

Part 4

☒ Emission limit values relating to volatile organic compounds with specific risk phrases **☒**

1.7. For discharges \boxtimes emissions \boxtimes of the $\underline{\text{VOCs}}$ volatile organic compounds referred to in $\underline{\text{paragraph 6:}}$ Article 53 where the mass flow of the sum of the compounds causing the labelling referred to in that $\underline{\text{Article-paragraph}}$ is greater than, or equal to, 10 g/h, an emission limit value of 2 mg/Nm³ shall be complied with. The emission limit value refers to the mass sum of the individual compounds.

2.8. For discharges \boxtimes emissions \boxtimes of halogenated $\underline{\lorOCs}$ volatile organic compounds which are assigned the risk phrase R40 \boxtimes or R68 \boxtimes , where the mass flow of the sum of the compounds causing the labelling R40 \boxtimes or R68 \boxtimes is greater than, or equal to, 100 g/h, an emission limit value of 20 mg/Nm³ shall be complied with. The emission limit value refers to the mass sum of the individual compounds.

▶ 1999/13/EC (adapted)⊃ Council

Part 5 ANNEX HB

Reduction scheme

1. PRINCIPLES

The purpose of the reduction scheme is to allow the operator the possibility to achieve by other means emission reductions, equivalent to those achieved if the emission limit values were to be applied. To that end The operator may use any reduction scheme, specially designed for his installation, provided that in the end an equivalent emission reduction is achieved. Member States shall report according to Article 11 of the Directive to the Commission about the progress in achieving the same emission reduction, including the experience from the application of the reduction scheme.

2. PRACTICE

○ 1. The operator may use any reduction scheme, specially designed for his installation. **○**

 \bigcirc In the case of applying coatings, varnishes, adhesives or inks, the following scheme can be used. Where the following method is inappropriate, the competent authority may allow an operator to apply any alternative exemption scheme which it is satisfied fulfils the principles outlined here \boxtimes achieving equivalent emission reductions to those achieved if the emission limit values of Parts 2 and 3 were to be applied \boxtimes . The design of the scheme takes \boxtimes shall take \boxtimes into account the following facts:

- (<u>ai</u>) where substitutes containing little or no solvent are still under development, a time extension must ⊠ shall ⊠ be given to the operator to implement his emission reduction plans;
- (bii) the reference point for emission reductions should correspond as closely as possible to the emissions which would have resulted had no reduction action been taken.

The following scheme shall operate for installations for which a constant solid content of product can be assumed and used to define the reference point for emission reductions:

(i) the operator shall forward an emission reduction plan which includes in particular decreases in the average solvent content of the total input and/or increased efficiency in the use of solids to achieve a reduction of the total emissions from the installation to a given percentage of the annual reference emissions, termed the target emission. This must be done on the following time frame:

Time period		Maximum allowed total annual	
New installations	Existing installations	emissions	
By 31.10.2001	By 31.10.2005	Target emission × 1,5	
By 31.10.2004	By 31.10.2007	Target emission	

- (a<u>u</u>) The annual reference emission is calculated as follows:
 - (in) The total mass of solids in the quantity of coating and/or ink, varnish or adhesive consumed in a year is determined. Solids are all materials in coatings, inks, varnishes and adhesives that become solid once the water or the volatile organic compounds are evaporated.

(ii) The annual reference emissions are calculated by multiplying the mass determined in (i) (a) by the appropriate factor listed in the table below. Competent authorities may adjust these factors for individual installations to reflect documented increased efficiency in the use of solids.

Activity	Multiplication factor for use in item (a)(ii)(ii)(b)
Rotogravure printing; flexography printing; laminating as part of a printing activity; varnishing as part of a printing activity; wood coating; coating of textiles, fabric film or paper; adhesive coating	4
Coil coating, vehicle refinishing	3
Food contact coating, aerospace coatings	2,33
Other coatings and rotary screen printing	1,5

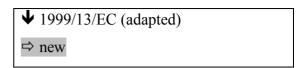
- (<u>be</u>) The target emission is equal to the annual reference emission multiplied by a percentage equal to:
 - (1) (the fugitive emission \boxtimes limit \boxtimes value + 15), for installations falling within item 6 and the lower threshold band of items 8 and 10 of Part 2 Annex IIA,
 - (2) (the fugitive emission \boxtimes limit \boxtimes value + 5) for all other installations.
- (cd) Compliance is achieved if the actual solvent emission determined from the solvent management plan is less than or equal to the target emission.

↓ 1999/13/EC Art. 8 (adapted)

Part 6

Emission ✓ <u>Mmonitoring</u>

- <u>1.2.</u> Member States shall ensure that \underline{eC} hannels to which abatement equipment is connected, and which at the final point of discharge emit more than an average of 10 kg/h of total organic carbon, \boxtimes shall be \boxtimes are monitored continuously for compliance.
- <u>23</u>. In the other cases, Member States shall ensure that either continuous or periodic measurements are carried out. For periodic measurements at least three ⊠ measurement values ⊲ readings shall be obtained during each measurement exercise.
- <u>34</u>. Measurements are not required in the case where end-of-pipe abatement equipment is not needed to comply with this Directive.



Part 7 ANNEX III

Solvent management plan

1. Introduction

This Annex provides guidance on carrying out a solvent management plan. It identifies the principles to be applied (item 2) and provides a framework for the mass balance (item 3) and an indication of the requirements for verification of compliance (item 4).

12. Principles

The solvent management plan \Boxis shall be used to \Boxis serves the following purposes:

- (\underline{ai}) \boxtimes verify \boxtimes verification of compliance as specified in Article <u>57</u> $\underline{9(1)}$;
- (\underline{bii}) \boxtimes identify \boxtimes identification of future reduction options;
- ($\underline{\text{ciii}}$) \boxtimes enable \boxtimes enabling provision of information on solvent consumption, solvent emissions and compliance with \boxtimes the requirements of \boxtimes Chapter Vthe Directive to the public.

23. Definitions

The following definitions provide a framework for the mass balance exercise.

Inputs of organic solvents (I):

- The quantity of organic solvents or their quantity in ⋈ mixtures ⋈ preparations purchased which are used as input into the process in the time frame over which the mass balance is being calculated.
- The quantity of organic solvents or their quantity in ⋈ mixtures ⋈ preparations recovered and reused as solvent input into the process. (The recycled solvent is counted every time it is used to carry out the activity.)

Outputs of organic solvents (O):

- O1 Emissions in waste gases.
- O2 Organic solvents lost in water, if appropriate taking into account waste water treatment when calculating O5.
- O3 The quantity of organic solvents which remains as contamination or residue in products output from the process.
- O4 Uncaptured emissions of organic solvents to air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.
- Of Organic solvents and/or organic compounds lost due to chemical or physical reactions (including for example those which are destroyed, e.g. by incineration or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under O6, O7 or O8).
- Of Organic solvents contained in collected waste.

- O7 Organic solvents, or organic solvents contained in \boxtimes mixtures \boxtimes preparations, which are sold or are intended to be sold as a commercially valuable product.
- Os Organic solvents contained in \boxtimes mixtures \boxtimes preparations recovered for reuse but not as input into the process, as long as not counted under O7.
- O9 Organic solvents released in other ways.
- 43. \Rightarrow Use of \Leftarrow Guidance on the solvent management plan for verification of compliance.

The use made of the solvent management plan ⋈ shall ⋈ will be determined by the particular requirement which is to be verified, as follows:

- (ai) $\underline{\text{vV}}$ erification of compliance with the reduction $\underline{\text{option}} \boxtimes \text{ scheme as set out } \boxtimes \text{ in } \underline{\text{Part}}$ $\underline{5 \; \underline{\text{Annex IIB}}}, \text{ with a total emission limit value expressed in solvent emissions per unit}$ $\underline{\text{product, or otherwise stated in } \underline{\text{Parts 2 and 3}} \; \underline{\text{Annex IIA}}.$
 - (in) For for all activities \boxtimes using the reduction scheme as set out in \boxtimes using Part 5.

 Annex IIB the solvent management plan \boxtimes shall \boxtimes should be done annually to determine \boxtimes the \boxtimes consumption (C). \boxtimes The \boxtimes consumption ear \Longrightarrow shall \hookrightarrow be calculated according to the following equation:

$$C = I1 - O8$$

A parallel exercise \boxtimes shall \boxtimes should also be undertaken to determine solids used in coating in order to derive the annual reference emission and the target emission each year.

(<u>iib</u>) <u>For for assessing compliance with a total emission limit value expressed in solvent emissions per unit product or otherwise stated in <u>Parts 2 and 3 Annex HA</u>, the solvent management plan ⊠ shall ⊠ <u>should</u> be done annually to determine ⊠ the ⊠ emissions (E). ⊠ The ⊠ <u>em</u>missions ⇒ shall ⇔ <u>ean</u> be calculated according to the following equation:</u>

$$E = F + O1$$

Wherewhere F is the fugitive emission as defined in <u>point (b)(i)section (ii)(a)</u>. The emission figure \boxtimes shall \boxtimes should then be divided by the relevant product parameter.

- (iiie) For for assessing compliance with the requirements of point (b)(ii) of paragraph 6 of Article 54 5(5)(b)(ii), the solvent management plan ⋈ shall ⋈ should be done annually to determine total emissions from all activities concerned, and that figure ⋈ shall ⋈ should then be compared with the total emissions that would have resulted had the requirements of Parts 2, 3 and 5 Annex II been met for each activity separately.
- (<u>bii</u>) Determination of fugitive emissions for comparison with ⊠ the ⊠ fugitive emission ⊠ limit ⊠ values in Part 2 <u>Annex IIA</u>:
 - (<u>ia</u>) Methodology

The fugitive emission \Rightarrow shall \Leftarrow ean be calculated according to \boxtimes one of \boxtimes the following equations:

$$F = I1 - O1 - O5 - O6 - O7 - O8$$

$$F = O2 + O3 + O4 + O9$$

 \boxtimes F \boxtimes This quantity can \Rightarrow shall \Leftarrow be determined \boxtimes either \boxtimes by direct measurement of the quantities \boxtimes or by \boxtimes Alternatively, an equivalent \boxtimes method or \boxtimes calculation can be made by other means, for instance by using the capture efficiency of the process.

The fugitive emission \boxtimes limit \boxtimes value is expressed as a proportion of the input, which \Rightarrow shall \Leftarrow can be calculated according to the following equation:

$$I = I1 + I2$$

(<u>iib</u>) Frequency

Determination of fugitive emissions \Rightarrow shall \Leftarrow ean be done by a short but comprehensive set of measurements \equiv It need \boxtimes and needs \boxtimes not be done again until the equipment is modified.

▶ 1999/13/EC Art. 9 (adapted)

Part 8

\boxtimes Assessment of \boxtimes <u>cC</u>ompliance with emission limit values \boxtimes in waste gases \boxtimes

<u>13</u>. In the case of continuous measurements the emission limit values shall be considered to be complied with if:

- none of

 the arithmetic

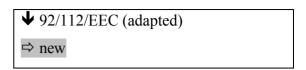
 the averages

 of all valid readings taken during any 24-hour period of operation of an installation or activity except start-up and shut-down operations and maintenance of equipment

 over 24 hours of normal operation-exceeds the emission limit values, and
- (b) none of the hourly averages exceeds the emission limit values by more than a factor of 1,5.
- <u>24</u>. In the case of periodic measurements the emission limit values shall be considered to be complied with if, in one monitoring exercise:
- (a) the average of all the ⋈ measurement values ⋈ readings does not exceed the emission limit values, and
- (b) none of the hourly averages exceeds the emission limit value by more than a factor of 1,5.

<u>35</u>. Compliance with the provisions of <u>Part 4 Article 5(7) and (8)</u> shall be verified on the basis of the sum of the mass concentrations of the individual volatile organic compounds concerned. For all other cases, compliance shall be verified on the basis of the total mass of organic carbon emitted unless otherwise specified in <u>Part 2 Annex IIA</u>.

<u>4.1.</u> Gas volumes may be added to the waste gas for cooling or dilution purposes where technically justified but shall not be considered when determining the mass concentration of the pollutant in the waste gas.



ANNEX VIII

Important Section Se

Part 1

⋈ Emission limit values for emissions into water **⋈**

Article 6

Member States shall take the necessary measures to ensure that discharges of waste are reduced in accordance with the following provisions:

<u>1.(a)</u> from existing industrial establishments \boxtimes In case of installations \boxtimes using the sulphate process \boxtimes (as a yearly average) \boxtimes :

weak acid waste and neutralized waste shall be reduced by 31 December 1993 in all waters to a value of not more than ⇒ 550 ⇔ 800 kg of total sulphate per tonne of titanium dioxide produced (i. e. corresponding to the SO4 ions contained in the free sulphuric acid and in the metallic sulphates);

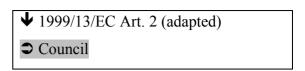
<u>2.(b)</u> from existing industrial establishments \boxtimes In case of installations \boxtimes using the \boxtimes chloride \boxtimes ehlorine process \boxtimes (as a yearly average) \boxtimes :

waters to the following values of total chloride per tonne of titanium dioxide produced (i. e. eorresponding to the C1 ions contained in the free hydrochloric acid and in the metallic chlorides):

- (a)- 130 kg ⊠ chloride per tonne of titanium dioxide produced ⊠ using neutral rutile,
- (b)- 228 kg ⊠ chloride per tonne of titanium dioxide produced ⊠ using synthetic rutile,
- (c) $450 \Rightarrow 330 \Leftrightarrow \text{kg} \boxtimes \text{ chloride per tonne of titanium dioxide produced} \boxtimes \text{ using slag.}$
- <u>3.</u> In the case of an establishment \boxtimes For installations using the chloride process and \boxtimes using more than one type or ore, the \boxtimes emission limit \boxtimes values \boxtimes in point 2 \boxtimes shall apply in proportion to the quantity of these \boxtimes the \boxtimes ores used.

▼ 78/176/EEC (adapted)

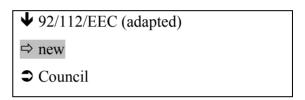




Part 3

⋈ Emission limit values to air **⋈**

<u>131.</u> \boxtimes The emission limit values which are expressed as concentrations in mass per cubic meter (Nm³) shall be calculated at \boxtimes standard conditions shall mean a temperature of 273,15 K, and <u>and</u> a pressure of 101,3 kPa \boxtimes <u>[...]</u> . \boxtimes



Article 9

- 1. Member States shall take the necessary measures to ensure that discharges into the atmosphere are reduced in accordance with the following provisions:
- (a) in the case of existing industrial establishments using the sulphate process:
- <u>2.(i)</u> as regards \boxtimes For \boxtimes dust: discharges shall be reduced by 31 December 1993 to a value of not more than 50 mg/ $\underline{\text{Nn}}$ ^m ⇒ as an hourly average \hookrightarrow (2) from major sources and not more than 150 mg/nm3 (2) from any other source (3);

- 3.(ii) as regards SO_{*} ⊗ For ⊗ gaseous sulphur dioxide and trioxide odischarged from digestion and calcination of the including acid droplets ⇔ calculated as SO₂ equivalent ⊗ discharges arising from digestion and calcination steps in the manufacture of titanium dioxide shall be reduced by 1 January 1995 to a value of not more than
- (a) \Rightarrow 6 \Leftrightarrow kg of SO2 equivalent per tonne of titanium dioxide produced \Rightarrow as a yearly average \Leftrightarrow ;
- (iii) Member States shall require means to be installed for preventing the emission of acid droplets;
- (b)(iv) plants for the concentration of waste acid shall not discharge more than 500 mg/ $\underline{\text{Nn}}$ m³ ⇒ as an hourly average \hookleftarrow \boxtimes forplants for the concentration of waste acid \boxtimes $\underline{\text{SOx calculated}}$ as $\underline{\text{SO2 equivalent (1)}}$;
- (v) plants for the roasting of salts generated by the treatment of waste shall be equipped with the best available technology not entailing excessive costs in order to reduce SO_{**} emissions;
- $\underline{4.(b)}$ \boxtimes For chlorine \boxtimes in the case of \boxtimes installations \boxtimes existing industrial establishments using the \boxtimes chloride \boxtimes ehlorine process:
- (i) as regards dust, discharges shall be reduced by 15 June 1993 to a value of not more than 50 mg/nm3 (2) for major sources and not more than 150 mg/nm3 (2) from any other source (3);
- (ii) as regards chlorine, discharges shall be reduced by 15 June 1993 to
- (a) \boxtimes 5 mg/Nm³ as \boxtimes a daily average concentration of not more than 5 mg/nm³ (4) and
- (b) $\frac{\text{mot more than}}{\text{mod more than}} 40 \boxtimes \frac{\text{mg/ng}^3}{\text{mod more than}}$ at any time.

3. The procedure for monitoring the reference measurements for discharges of SOx into the

2. This Directive shall not prejudice Directive 80/779/EEC.

atmosphere is set out in the Annex.

♦ 82/883/EEC (adapted)

⊃ Council



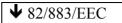
new		
Council		

Part 5

Emission monitoring

The monitoring of emissions to air shall include at least continuous monitoring of:

- (a) ⊃[...] ⊂ ⊃ gaseous sulphur dioxide and trioxide discharged from digestion and calcination ⊂ from plants for the concentration of waste acid in installations using the sulphate process
- (b) chlorine from ⊃ major sources within ⊂ installations using the chloride process
- (c) dust from major sources.



ANNEX I

METHOD OF WASTE DISPOSAL: DISCHARCE INTO AIR

Components	Parameters to be mandatorily	optionally	Minimum annual sampling and analysis frequency	Comments
Air	Sulphur dioxide (SO₂)⁴ Chlorine²	Dust	Continuously	1. Region with surveillance by an existing air pollution surveillance network with at least one station near the production site giving representative readings for pollution emanating from the site

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If the production process used is the sulphate process.

To be used once measuring technology allows continuous measurements to be carried out and where the chlorine process is used.

Г	T T	1
	12 ‡	2. Region with no
		surveillance network.
		Measurement of total
		amounts of gaseous
		discharges emitted by the
		production site. Where a
		site has a number of
		discharge sources,
		sequential measurements
		may be made.
		may be made.
		The reference method of
		measurement for sulphur
		dioxide is that given in
		Annex III to Council
		Directive 80/779/EEC of
		15 July 1980 on air quality
		limit values and guide
		values for sulphur dioxide
		and suspended particulates
		(OJ No L 229, 30. 8. 1980,
		p. 30)
		P. 2 4)

The figures must be sufficiently representative and significant.

ANNEX IV

METHOD OF WASTE DISPOSAL: STORAGE AND DUMPING ON LAND

Components	Parameters to b	e determined optionally	Minimum annual sampling and analysis frequency	Reference method of analysis
1. Unfiltered surface wateraround the site in the area affected by the storage and at a point outside this area	pH (pH unit)		±	Electrometry. Measurement is to be earried out at the time of sampling
2. Unfiltered groundwaterare und the site including, where necessary, outflow points ⁴⁵	SO4 ⁶ (mg/l)		±	1. Gravimetry 2. Complexometric titration with EDTA 3. Molecular absorption spectrophotometry

Sampling must be carried out at the same time of year.

When monitoring surface water and groundwater, particular attention is to be paid to any matter carried by running water from the waste storage area.

Sampling must be carried out 50 cm beneath the surface of the water, if possible.

Sampling must be carried out at the same time of year.

When monitoring surface water and groundwater, particular attention is to be paid to any matter carried by running water from the waste storage area.

Mandatory determination where storage or dumping contains waste from the sulphate process.

Ti [‡] (mg/l)	V, Mn, Ni, Zn (mg/l)	1	Atomic absorption spectrophotometry
Fe ² (mg/l)	Cr (mg/l)	±	4. Atomic absorption spectrophotometry 5. Molecular absorption spectrophotometry
Ca (mg/l)		±	- 6. Atomic absorption spectrophotometry 7. Complexometric titration
	Cu, Pb (mg/l)	1	8. Atomic absorption spectrophotometry 9. Polarography
Cl ³ (mg/l)		1	Titrimetry (Mohr method)

-

Mandatory determination where storage or dumping contains waste from the chlorine process.

Also includes the measurement of Fe in the filtrate (suspended solids).

Mandatory determination where storage or dumping contains waste from the chlorine process.

Environment of the storage and dumping site	Visual inspection of: topog raphy and site mana	1	Methods to be chosen by Member States
	geme nt effect		
	enect on subso il		
	ecolo gy of the site		

ANNEX V

METHOD OF WASTE DISPOSAL: INJECTION INTO SOIL

Components	Parameters to be determined		Minimum	Reference method of analysis
	mandatorily	optionally	annual sampling frequency and analysis	unarysis
1. Unfiltered surface water around the site in the zone affected by the injection	pH (pH unit)		1	Electrometry. Measurement is to be carried out at the time of sampling
2. Unfiltered groundwater around the site including out-flow points	SO ₄ [‡] (mg/l)		1	Complexometric titration with EDTA Molecular absorption spectrophotometry
	Ti ² (mg/l)	V, Mn, Ni, Zn (mg/l)	*	Atomic absorption spectrophotometry
	Fe ³ (mg/l)	Cr (mg/l)	1	Atomic absorption spectrophotometry Molecular absorption spectrophotometry

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Mandatory determination where waste from the sulphate process is injected into soil.

Mandatory determination where waste from the chlorine process is injected into soil.

Also includes the measurement of Fe in the filtrate (suspended solids).

	Ca (mg/l)		±	Atomic absorption spectrophotometry Complexometric titration
		Cu, Pb	±	- Atomic absorption spectrophotometry - Polarography
	Cl ⁺ (mg/l)		i	Titrimetry (Mohr method)
Environment	Ground stability		1	Photographic and topographic survey
Topography	Permeability Perosity		¥	Pumping tests Well-logging

Mandatory determination where waste from the chlorine process is injected into soil.

▼ 78/176/EEC

ANNEX I

PARTICULARS WHICH MUST BE SUPPLIED IN ORDER TO OBTAIN THE PRIOR AUTHORIZATION REFERRED TO IN ARTICLES 4. 5 AND 6

A. CHARACTERISTICS AND COMPOSITION OF THE MATTER:

- 1. total amount and average compositions of matter dumped (e.g. per year);
- 2. form (e.g. solid, sludge, liquid or gaseous);
- 3. properties: physical (e.g. solubility and density), chemical and biochemical (e.g. oxygen demand) and biological;

4. toxicity;

- 5. persistence: physical, chemical and biological;
- 6. accumulation and biotransformation in biological materials or sediments;
- 7. susceptibility to physical, chemical and biochemical changes and interaction in the environment concerned with other organic and inorganic materials;
- 8. probability of production of taints or other changes reducing marketability of resources (fish, shellfish, etc.).

B. CHARACTERISTICS OF DUMPING OR DISCHARGE SITE AND METHODS OF DISPOSAL:

- 1. location (e.g. coordinates of the dumping or discharge area, depth and distance from the coast), location in relation to other areas (e.g. amenity areas, spawning, nursery and fishing areas and exploitable resources):
- 2. rate of disposal per specific period (e.g. quantity per day, per week, per month);
- 3. methods of packaging and containment, if any;
- 4. initial dilution achieved by proposed method of release, particularly the speed of the ship;
- 5. dispersal characteristics (e.g. effects of currents, tides, and wind on horizontal transport and vertical mixing);
- 6. water characteristics (e.g. temperature, pH, salinity, stratification, oxygen indices of pollution—dissolved oxygen (DO), chemical oxygen demand (COD), biochemical oxygen demand (BOD), nitrogen present in organic and inorganic form, including ammonia, suspended matter, other nutrients and productivity);
- 7. bottom characteristics (e.g. topography, geochemical and geological characteristics and biological productivity);
- 8. existence and effects of other dumpings or discharges which have been made in the area concerned (e.g. heavy metal background reading and organic carbon content).

C. CHARACTERISTICS OF THE TIPPING, STORAGE OR INJECTION AREA AND DISPOSAL METHODS:

1. geographical situation;

2. characteristics of adjacent areas;

3. methods of packaging and containment, if any;

4. characteristics of the methods of tipping, storage and injection, including an assessment of precautions taken to avoid the pollution of waters, the soil and the atmosphere.

ANNEX II

SURVEILLANCE AND MONITORING OF DISPOSAL

A. MONITORING OF WASTE

Disposal operations shall be accompanied by:

1. checks on the quantity, composition and toxicity of the waste to ensure that the conditions for prior authorization referred to in Articles 4, 5 and 6 are fulfilled;

2. tests for acute toxicity on certain species of molluses, crustaceans, fish and plankton, preferably species commonly found in the discharge areas. In addition, tests shall be carried out on samples of the brine shrimp species (Artemia salina).

Over a period of 36 hours and at an effluent dilution of 1/5 000, these tests must not reveal:

- more than 20 % mortality for adult forms of the species tested,

- and for larval forms, mortality exceeding that of a control group.

B. SURVEILLANCE AND MONITORING OF THE ENVIRONMENT CONCERNED

I. In The case of discharge into fresh water or into the sea or in the case of dumping, such checks shall relate to the three following items: water column, living matter and sediments. Periodic checks on the state of the area affected by the discharges will make it possible to follow the development of the environments concerned.

Wontoring shall include the determination of.
1. pH;
2. dissolved oxygen;
3. turbidity;
4. hydrated iron oxides and hydroxides in suspension;
5. toxic metals in water, suspended solids, sediments and in accumulation in selected benthic and pelagic organisms;
pelagie organisms,
6. the diversity and the relative and absolute abundance of flora and fauna.
H. In the case of storage, tipping or injection the monitoring shall include:
1. tests to ensure that surface waters and ground waters are not contaminated. These tests shall
include the measurement of:
- acidity,
iron content (soluble and particulate),
- calcium content,
toxic metal content (soluble and particulate) if any;
2. where necessary, tests to determine any adverse effects on the structure of the subsoils;
3. a general assessment of the ecology of the area in the vicinity of the tipping, storage or injection point.
point.

Ψ	92/112/EEC	(adapted)

ANNEX

Procedure for monitoring the reference measurements for gaseous SO, emissions

For the purposes of calculating the quantities of SO₂ and SO₂ and acid droplets expressed as SO₂ equivalent, discharged by specific installations, account must be taken of the volume of gas discharged over the duration of the specific operations in question and of the average SO₂/SO₂ content measured over the same period. The SO₂/SO₂ flow rate and content must be determined under the same temperature and humidity conditions.

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ANNEX IX

Part A

Repealed Directives with their successive amendments

(referred to in Article 72)

Council Directive 78/176/EEC

(OJ L 54, 25.2.1978, p. 19)

Council Directive 83/29/EEC

(OJ L 32, 3.2.1983, p. 28)

Council Directive 91/692/EEC

(OJ L 377, 31.12.1991, p. 48)

Council Directive 82/883/EEC

(OJ L 378, 31.12.1982, p. 1)

Council Regulation (EC) No 807/2003

(OJ L 122, 16.5.2003, p. 36)

Council Directive 92/112/EEC

(OJ L 409, 31.12.1992, p. 11).

Council Directive 2008/1/EC

(<u>D[...]</u> <u>C</u> <u>DOJ L 24, 29.1.2008, p. 8</u> <u>C</u>)

only Annex I point (b)

only Annex III, point 34

<u>[...]</u>C

D[...]C

Council Directive 1999/13/EC

(OJ L 85, 29.3.1999, p. 1)

Regulation (EC) N° 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1)

Directive 2004/42/CE of the European Parliament and of the Council

(OJ L 143, 30.4.2004, p. 87)

<u>][...]</u>C

<u>[...]</u>C

⊃<u>[...]</u>C

D[...]C

only Annex I, point 17

only Article 13(1)

Directive 2000/76/EC of the European Parliament and of the Council

(OJ L 332, 28.12.2000, p. 91)

Directive 2001/80/EC of the European Parliament and of the Council

(OJ L 309, 27.11.2001, p. 1)

Council Directive 2006/105/ EC

(OJ L 363, 20.12.2006, p. 368)

Only Annex, part B, point 2

Part B

List of time-limits for transposition into national law (referred to in Article 72)

Directive	Time-limit for transposition	Time-limit for application
78/176/EC	25 February 1979	
82/883/EC	31 December 1984	
92/112/EC	15 June 1993	
2008/1/EC	<u> </u>	
1999/13/EC	1 April 2001	
2000/76/EC	28 December 2000	28 December 2002
		28 December 2005

2001/80/EC	27 November 2002	27 November 2004
2003/35/EC	25 June 2005	
2003/87/EC	31 December 2003	

ANNEX X

Correlation table

Directive 78/176/EEC	Directive 82/883/EEC	Directive 92/112/EEC	Directive 2008/1/EC	Directive 1999/13/EC	Directive 2000/76/EC	Directive 2001/80/EC	This Directive
Article 1(1)	Article 1	Article 1	Article 1	Article 1	Article 1, first paragraph		Article 1
Article 1(2), point (a)			Article 2(2)				Article 3(2)
Article 1(2), point (b)					Article 3(1)		Article 3(23)
Article 1(2), points (c), (d) and (e)							
Article 2							Article 62
Article 3							Article 12, points (4) and (5)
Article 4			Article 4	Article 3, introductory wording and (1)	Article 4(1)		Article 4(1), first subparagraph

	 	 	 	Article 5
Article 5				Article 12, points (4) and (5)
Article 6				Article 12, points (4) and (5)
Article 7(1)				Article 65(1) and 65(2), first subparagraph
Article 7(2) and (3)				
	 	 	 	Article 65(2), second subparagraph
Article 8(1)				Article 63(2)
Article 8(2)				Article 28(1), second subparagraph
Article 9				
Article 10				
Article 11				Article 13

Article 12							
Article 13(1)							Article 67
Article 13(2), (3) and (4)							
Article 14							
Article 15	Article 14	Article 12	Article 21	Article 15	Article 21	Article 18(1) and (3)	Article 71
Article 16	Article 15	Article 13	Article 23	Article 17	Article 23	Article 20	Article 75
Annex I							
Annex IIA introductory wording and point 1							
Annex IIA point 2							Annex VIII, Part 2
Annex IIB							
	Article 2						
	Article 3						

Article 4(1) and 4(2), first subparagraph				Article 65(3)
Article 4(2), second subparagraph				Annex VIII, Part 4
Article 4(3) and (4)				
 	 			 Article 65(4)
Article 5				
Article 6				
Article 7				
Article 8				
Article 9				
Article 10				Article 69
Article 11(1)	Article 19(1)	Article 13(1)	Article 17(1)	Article 69(1)
 	 			 Article 69(2)
Article 11(2) and (3)				

Article 12				
Article 13				
Annex I				
Annex II				Annex VIII, Part 4
Annex III				Annex VIII, Part 4
Annex IV				
Annex V				
	Article 2(1), introductory wording			
	Article 2(1)(a), introductory wording and first indent			
	Article 2(1)(a), second indent			Article 62(2)
	Article 2(1)(a), third indent and 2(1)(b), third indent			Article 62(4)

	Article 2(1)(a), fourth, fifth, sixth and seventh indent			
	Article 2(1)(b), introductory wording and first, fourth, fifth, sixth and seventh indent			
	Article 2(1)(b), second indent			Article 62(3)
	Article 2(1)(c)			
	Article 2(2)			
	Article 3			Article 62
	Article 4			Article 62
	Article 5			
	Article 6, first paragraph, introductory wording			Article 63(1)
	Article 6, first paragraph, point (a)			Annex VIII, Part 1, point (1)

Article 6, first paragraph, point (b)					Annex VIII, Part 1, point (2)
Article 6, second paragraph					Annex VIII, Part 1, point (3)
Article 7					
Article 8					
Article 9(1) introductory wording					Article 64(2)
Article 9(1)(a), introductory wording					
Article 9(1)(a)(i)					Annex VIII, Part 3, point (2)
Article 9(1)(a)(ii)					Annex VIII, Part 3, point (3), introductory wording, and point (3)(a)
Article 9(1)(a)(iii)					Article 64(1)
Article 9(1)(a)(iv)					Annex VIII, Part 3, point (3)(b)
	paragraph, point (b) Article 6, second paragraph Article 7 Article 8 Article 9(1) introductory wording Article 9(1)(a), introductory wording Article 9(1)(a)(ii) Article 9(1)(a)(iii)	paragraph, point (b) Article 6, second paragraph Article 7 Article 8 Article 9(1) introductory wording Article 9(1)(a), introductory wording Article 9(1)(a)(ii) Article 9(1)(a)(iii)	paragraph, point (b) Article 6, second paragraph Article 7 Article 8 Article 9(1) introductory wording Article 9(1)(a), introductory wording Article 9(1)(a)(i) Article 9(1)(a)(ii) Article 9(1)(a)(iii)	paragraph, point (b) Article 6, second paragraph Article 7 Article 8 Article 9(1) introductory wording Article 9(1)(a), introductory wording Article 9(1)(a)(i) Article 9(1)(a)(ii) Article 9(1)(a)(iii)	paragraph, point (b) Article 6, second paragraph Article 7 Article 8 Article 9(1) (a), introductory wording Article 9(1)(a)(ii) Article 9(1)(a)(iii) Article 9(1)(a)(iiii)

	Article 9(1)(a)(v)					
	Article 9(1) b)					Annex VIII, Part 3, point (4)
	Article 9(2) and (3)					
	Article 10					Article 65
	Article 11					Article 12, points (4) and (5)
	Annex					
		Article 2, introductory wording				Article 3, introductory wording
		Article 2(1)	Article 2(14)			Article 3(1)
		Article 2(3)	Article 2(1)			Article 3(3)
		Article 2(4)				
		Article 2(5)	Article 2(9)	Article 3(8)	Article 2(1)	Article 3(4)
		Article 2(6)	Article 2(13)	Article 3(9)	Article 2(3), first part	Article 3(5)
		Article 2(7)				Article 3(6)

	Article 2(8)	Article 2(5)			Article 66
	Article 2(9), first sentence	Article 2(7)	Article 3(12)		Article 3(7)
	Article 2(9), second sentence				Article 4(2), first subparagraph
 	 				Article 4(2), second subparagraph
	Article 2(10)(a)				
	Article 2(10)(b), first subparagraph				Article 3(8)
	Article 2(10)(b), second subparagraph				Article 21(3)
	Article 2(11), first subparagraph and first, second and third indents				Article 3(9)
	Article 2(11), second subparagraph				Articles 14(2) and 15(4)
	Article 2(12)	Article 2(6)	Article 3(11)	Article 2(5)	Article 3(10)

	Article 2(13)		Article 3(11)
	Article 2(14)		Article 3(12)
 	 	 	 Article 3(13), (14), (15), (16) and (17)
	Article 3, first subparagraph, introductory wording		Article 12, introductory wording
	Article 3, first subparagraph, point (a)		Article 12(1) and (2)
	Article 3 first subparagraph, point (b)		Article 12(3)
	Article 3 first subparagraph, point (c)		Article 12(4) and (5)
	Article 3 first subparagraph, point (d)		Article 12(6)

	Article 3 first subparagraph, point (e)		Article 12(7)
	Article 3 first subparagraph, point (f)		Article 12(8)
	Article 3, second subparagraph		
	Article 5(1)		Article 73(1) and (2)
 	 	 	 Article 73(3) and (4)
	Article 5(2)		Article 71(1), second subparagraph
	Article 6(1), introductory wording		Article 13(1), introductory wording
	Article 6(1), first subparagraph, first indent		Article 13(1) a)

	Article 6(1), first subparagraph, second indent		Article 13(1) b)
	Article 6(1), first subparagraph, third indent		Article 13(1) c)
	Article 6(1), first subparagraph, fourth indent		Article 13(1) d)
 	 	 	 Article 13(1) e)
	Article 6(1), first subparagraph, fifth indent		Article 13(1) f)
	Article 6(1), first subparagraph, sixth indent		Article 13(1) g)
	Article 6(1), first subparagraph, seventh indent		Article 13(1) h)

	Article 6(1), first subparagraph, eighth indent		Article 13(1) i)
	Article 6(1), first subparagraph, ninth indent		Article 13(1) j)
	Article 6(1), first subparagraph, tenth indent		Article 13(1) k)
	Article 6(1), second subparagraph		Article 13(1), second subparagraph
	Article 6(2)		Article 13(2)
 	 	 	 Article 14
	Article 7		Article 6(2)
	Article 8, first paragraph	Article 4(3)	Article 6(1)
	Article 8, second paragraph		
	Article 9(1), first part of sentence		Article 15(1), first subparagraph

	Article 9(1), second part of sentence		
	Article 9(2)		Article 6(3)
	Article 9(3), first subparagraph, first and second sentence		Article 15(1), second subparagraph, introductory wording and points (a) and (b)
	Article 9(3), first subparagraph, third sentence		Article 15(2)
 	 	 	 Article 15(3), (4) and (5)
	Article 9(3), second subparagraph		
	Article 9(3), third subparagraph		Article 10(1)
	Article 9(3), fourth subparagraph		Article 10(2)
	Article 9(3), fifth subparagraph		Article 10(3)

	Article 9(3), sixth subparagraph		Article 10(4)
	Article 9(4), first part of first sentence		Article 16(2), first subparagraph
	Article 9(4), second part of first sentence		Article 16 (3), first subparagraph
	Article 9(4), second sentence		Article 15(1), second subparagraph, point (f)
 	 	 	 Article 16(2), second subparagraph
 	 	 	 Article 16 (3), second subparagraph and (4) and (5)
 	 	 	 Article 17
	Article 9(5), first subparagraph		Article 15(1), second subparagraph, point (c)

 	 	 	 Article 15(1), second subparagraph, point (d)
	Article 9(5), second subparagraph		
	Article 9(6), first subparagraph		Article 15(1), second subparagraph, point (e)
	Article 9(6), second subparagraph		
	Article 9(7)		
	Article 9(8)		Articles 7 and 18(1)
 	 	 	 Article 18(2), (3) and (4)
	Article 10		Article 19
	Article 11		Article 20
	Article 12(1)		Article 21(1)
	Article 12(2), first sentence		Article 21(2), first subparagraph

	Article 12(2), second sentence		Article 21(2), second subparagraph
	Article 12(2), third sentence		
	Article 13(1)		Article 22(1)
 	 	 	 Article 22(2) and (3)
	Article 13(2), introductory wording		Article 22(4), introductory wording
	Article 13(2), first indent		Article 22(4)(a)
	Article 13(2), second indent		Article 22(4)(b)
	Article 13(2), third indent		Article 22(4)(c)
	Article 13(2), fourth indent		
 	 	 	 Article 22(4)(d)
 	 	 	 Article 23

 	 		 	Article 24
 	 		 	Article 25(1), first and second subparagraph
	Article 14, introductory wording			Article 9(1), first part of sentence and Article 25(1), third subparagraph, introductory wording
	Article 14, first indent			Article 9(1), second part of sentence
	Article 14, second indent			Article 8, point (2) and Article 15(1), point (c)
	Article 14, third indent			Article 25(1), third subparagraph
 	 		 	Article 25(2) to (7)
	Article 15(1), introductory wording and first and second indents	Article 12(1), first subparagraph		Article 26(1), first subparagraph and points (a) and (b)

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