

**Industrial emissions (integrated pollution prevention and control)
(recast) ***I**

European Parliament legislative resolution of 10 March 2009 on the proposal for a directive of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) (recast) (COM(2007)0844 – C6-0002/2008 – 2007/0286(COD))

(Codecision procedure: recast)

The European Parliament,

- having regard to the Commission proposal to the European Parliament and the Council (COM(2007)0844),
 - having regard to Article 251(2) and Article 175(1) of the EC Treaty, pursuant to which the Commission submitted the proposal to Parliament (C6-0002/2008),
 - having regard to the Interinstitutional Agreement of 28 November 2001 on a more structured use of the recasting technique for legal acts¹,
 - having regard to the letter of 10 September 2008 from the Committee on Legal Affairs to the Committee on Environment, Public Health and Food Safety in accordance with Rule 80a(3) of its Rules of Procedure,
 - having regard to Rules 80a and 51 of its Rules of Procedure,
 - having regard to the report of the Committee on the Environment, Public Health and Food Safety and the opinion of the Committee on Legal Affairs (A6-0046/2009),
- A. whereas, according to the Consultative Working Party of the Legal Services of the European Parliament, the Council and the Commission, the proposal in question does not include any substantive amendments other than those identified as such in the proposal and whereas, as regards the codification of the unchanged provisions of the earlier acts together with those amendments, the proposal contains a straightforward codification of the existing texts, without any change in their substance,
1. Approves the Commission proposal as adapted to the recommendations of the Consultative Working Party of the Legal Services of the European Parliament, the Council and the Commission and incorporating the technical amendments approved by the Committee on Legal Affairs and as amended below;
 2. Calls on the Commission to refer the matter to Parliament again if it intends to amend the proposal substantially or replace it with another text;
 3. Instructs its President to forward its position to the Council and the Commission.

¹ OJ C 77, 28.3.2002, p. 1.

Position of the European Parliament adopted at first reading on 10 March 2009 with a view to the adoption of Directive 2009/.../EC of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) (recast)

(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 175 (1) thereof,

Having regard to the proposal from the Commission **||**,

Having regard to the opinion of the European Economic and Social Committee¹,

Having regard to the opinion of the Committee of the Regions²,

Acting in accordance with the procedure laid down in Article 251 of the Treaty³,

Whereas:

- (1) A number of substantial changes are to be made to Council Directive 78/176/EEC of 20 February 1978 on waste from the titanium dioxide industry⁴, 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 industry⁵, 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 industry⁶, Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control⁷, 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 installations⁸, Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste⁹ 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 plants¹⁰. In the interests of clarity, *those* Directives should be recast.
- (2) In order to prevent, reduce and as far as possible eliminate pollution arising from

¹ *Opinion of 14 January 2009.*

² OJ C 325, 19.12.2008, p. 60.

³ *Position of the European Parliament of 10 March 2009.*

⁴ OJ L 54, 25.2.1978, p. 19. **||**

⁵ OJ L 378, 31.12.1982, p. 1. **||**

⁶ OJ L 409, 31.12.1992, p. 11.

⁷ OJ L 257, 10.10.1996, p. 26. **||**

⁸ OJ L 85, 29.3.1999, p. 1. **||**

⁹ OJ L 332, 28.12.2000, p. 91.

¹⁰ OJ L 309, 27.11.2001, p. 1. **||**

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) *Compliance with the emission limit values provided for in this Directive should be regarded as a necessary but insufficient condition for meeting the objectives of preventing and reducing pollution and achieving a high level of protection of the environment, including groundwater, air and soil, and of the public. In order to meet those objectives, it may be necessary to lay down more stringent limit values for the polluting substances covered by this Directive, the emission values for other substances and environmental components, and other appropriate conditions.*
- (4) 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 for 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.
- (5) 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 on Air Pollution¹, the Thematic Strategy for Soil Protection² and the Thematic Strategy on the Prevention and Recycling of Waste³ adopted as a follow-up to 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 communications set objectives to protect human health and the environment which cannot be met without further reductions of emissions arising from industrial activities.
- (6) 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. *The overall use of organic solvents should be minimised.*
- (7) In order to facilitate the granting of permits, Member States should be able to set requirements for certain categories of installations in general binding rules.
- (8) In order to avoid duplication of regulation, the permit for an installation covered by 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 Community⁵ should not include an emission limit value for the emissions of greenhouse gases except where it is necessary to ensure that no significant local pollution is caused or where an installation is temporarily excluded from that scheme.

¹ COM(2005)0446 ||.

² COM(2006)0231 ||.

³ COM(2005)0666 ||.

⁴ OJ L 242, 10.9.2002, p. 1.

⁵ OJ L 275, 25.10.2003, p. 32. ||

- (9) 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 *certain* 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.
- (10) The permit should include all the || measures *necessary* 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 *for the protection of* the soil and groundwater, monitoring requirements ***and a list of the dangerous substances or preparations used as defined in Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances***³. The conditions of the permit should be set on the basis of best available techniques.
- (11) 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 *publish* 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.
- (12) In order to take into account certain specific circumstances, competent authorities should be able to *lay down* emission limit values, ***equivalent parameters or technical measures resulting in emission levels that may*** exceed the emission levels associated with the best available techniques as described in the BAT reference documents. ■
- (13) 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.
- (14) 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.
- (15) The spreading of livestock manure and slurry can lead to significant impacts on the quality of the environment. In order to ensure *that* the prevention and control of these impacts *is carried out* in an integrated way, it is necessary that manure and slurry generated by activities covered by this Directive are spread by the operator or by third parties using best available techniques. In order to provide Member States with flexibility in meeting these requirements, the application of best available techniques

¹ OJ L 175, 5.7.1985, p. 40. ||

² OJ L 10, 14.1.1997, p. 13. ||

³ ***OJ 196, 16.8.1967, p. 1.***

to operator or third party spreading may be specified within the permit or in other measures.

- (16) 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.
- (17) It is necessary to ensure that the operation of an installation does not lead to a **significant** deterioration of the quality of soil and groundwater. **Where necessary and appropriate**, permit conditions should therefore include the monitoring of soil and groundwater and the **requirement to** remediate the site upon definitive cessation of activities, **in accordance with the requirements laid down in Community and national law. As soon as Community legislation amending Directive 2004/35/EC 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 or new legislation on the protection of soil and groundwater enters into force, the Commission should review the provisions on the protection of soil and groundwater provided for in this Directive in order to ensure consistency and to avoid overlap.**
- (18) In order to ensure || 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 operators comply with those conditions and** 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. **It is for the Member States to determine the most appropriate enforcement regimes, including how emission limit values should be complied with.**
- (19) **Bearing in mind the provisions of the Aarhus Convention²**, 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. *The 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.
- (20) 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 pollutants³ and the objectives set in the Commission Communication on the Thematic Strategy on Air Pollution, it is necessary to set more stringent emission limit values at Community level for certain categories of combustion plants and pollutants.

¹ OJ L 143, 30.4.2004, p. 56.

² Convention on access to information, public participation in decision-making and access to justice in environmental matters of 1998.

³ OJ L 309, 27.11.2001, p. 22. ||

- (21) In *the* 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.
- (22) 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 *12-month* period in order to limit the negative effects of pollution on the environment. However, where there is an overriding need *for* 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 *those* time limits.
- (23) 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.
- (24) 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.
- (25) Installations producing titanium dioxide can give rise to significant pollution into air and water ***and may pose a toxicological threat***. In order to reduce these impacts, it is necessary to set at Community level more stringent emission limit values for certain polluting substances.
- (26) 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.
- I**
- (27) ***In accordance with the ‘polluter pays’ principle***, 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.
- (28) In order to provide existing installations *with* 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 *in* Annex V.

¹ OJ L 184, 17.7.1999, p. 23. ||

- (29) *In order to address the significant problems raised by the emissions of dioxins, furans and other relevant polluting substances emitted by installations producing pig iron and steel and, in particular, sintering iron ore, the procedure on the minimum requirements laid down in this Directive should be applied to such installations as a priority and in any event by 31 December 2011.*
- (30) Since the objectives of the action to be taken, *namely* 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.
- (31) 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.
- (32) 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 *recast by this Directive*. The obligation to transpose the provisions which are unchanged arises under the earlier Directives.
- (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.

HAVE ADOPTED THIS DIRECTIVE:

CHAPTER I

Common provisions

Article 1

Subject matter

This Directive lays down rules on integrated prevention and control of pollution arising from industrial activities.

It also lays down rules designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land and to prevent generation of waste, in order to achieve a high level of protection of the environment taken as a whole.

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 3

Definitions

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

- (1) 'substance' means any chemical element and its compounds, with the exception of the following substances:
 - (a) radioactive substances as defined in Council Directive 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;
 - (b) genetically modified micro-organisms as defined in Council Directive 90/219/EEC || of 23 April 1990 on the contained use of genetically modified micro-organisms²;
 - (c) genetically modified organisms as defined in Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms ||³;
- (2) 'pollution' 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) 'installation' means a stationary technical unit within which one or more activities listed in Annex I or in Part 1 of Annex VII are carried out, and any other directly associated activities on the same site which have a technical connection with the activities listed in those Annexes and which could have an effect on emissions and pollution;
- (4) 'emission' means the direct or indirect release of substances, vibrations, heat or noise from individual or diffuse sources in *an* installation into the air, water or land;
- (5) 'emission limit value' 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.
- (6) 'environmental quality standard' means the set of requirements which must be

¹ OJ L 159, 29.6.1996, p. 1.

² OJ || L 117, 8.5.1990, p. 1.

³ OJ L 106, 17.4.2001, p. 1.

fulfilled at a given time by a given environment or particular part thereof, as set out in Community legislation;

- (7) 'permit' means a written authorisation to operate all or part of an installation or combustion plant, waste incineration plant or waste co-incineration plant;
- (8) 'substantial change' means a change in the nature or functioning, or an extension, of an installation or combustion plant, waste incineration plant or waste co-incineration plant which may have significant negative effects on humans or the environment;
- (9) 'best available techniques' 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 the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole:
 - (a) 'techniques' includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;
 - (b) 'available' techniques 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;
 - (c) 'best' means most effective in achieving a high general level of protection of the environment as a whole.
- (10) ***'best available techniques associated emission levels' ('BAT-AELs') means a range of emission levels resulting from the application, in normal operating conditions, of the best available techniques as described in the BAT reference documents and expressed in the form of an average over a given period of time and under given reference conditions;***
- (11) 'operator' means any natural or legal person who operates or controls the installation or combustion plant, waste incineration plant or waste co-incineration plant or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the installation or plant has been delegated;
- (12) 'the public' means one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups;
- (13) 'the public concerned' 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 the requirements of any relevant national law shall be deemed to have an interest;***
- (14) 'emerging technique' means a novel technique for an industrial activity that, if ***industrially proven and*** commercially developed, ***would*** provide a higher general level of protection of the environment or ***at least the same level of protection and*** higher cost savings than existing best available techniques;

- (15) 'dangerous substances' means dangerous substances or preparations as defined in Directive 67/548/EEC and Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations¹;
- (16) 'baseline report' means quantified information on the state of soil and groundwater contamination by *significant amounts of relevant* dangerous substances;
- (17) 'routine inspection' means an environmental inspection carried out as part of a planned inspection programme;
- (18) 'non-routine inspection' means environmental inspections carried out in response to complaints or in the investigation of accidents, incidents and occurrences of non-compliance;
- (19) *'environmental inspection' means any activity that involves verifying that an installation complies with relevant environmental requirements;*
- (20) 'fuel' means any solid, liquid or gaseous combustible material used to fire a combustion plant;
- (21) 'combustion plant' means any technical apparatus in which fuels are oxidised in order to use the heat thus generated;
- (22) 'biomass' means any of the following:
- (a) products consisting of any vegetable matter from agriculture or forestry which can be used as a fuel for the purpose of recovering its energy content;
 - (b) the following waste used as a fuel:
 - (i) vegetable waste from agriculture and forestry;
 - (ii) vegetable waste from the food processing industry, if the heat generated is recovered;
 - (iii) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered;
 - (iv) cork waste;
 - (v) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating;
- (23) 'multi-fuel firing combustion plant' means any combustion plant which may be fired simultaneously or alternately by two or more types of fuel;
- (24) 'gas turbine' means any rotating machine which converts thermal energy into mechanical work, consisting mainly of a compressor, a thermal device in which fuel

¹ OJ L 200, 30.7.1999, p. 1

is oxidised in order to heat the working fluid, and a turbine;

- (25) 'waste' means waste as defined in Article 3(1) of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste¹;
- (26) 'hazardous waste' means hazardous waste as defined in Article 3(2) of Directive 2008/98/EC;
- (27) '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 under heading 20 01 of the Annex to Commission Decision 2000/532/EC ² establishing the European Waste List² that is collected separately at source and excluding the other wastes indicated under heading 20 02 of that Annex;
- (28) 'waste incineration plant' means any stationary or mobile technical unit and equipment dedicated to the thermal treatment of waste, with or without recovery of the combustion heat generated, through the incineration by oxidation of waste as well as other thermal treatment processes if the substances resulting from the treatment are subsequently incinerated;
- (29) 'waste co-incineration plant' means any stationary or mobile technical unit *the main purpose of which* is the generation of energy or production of material products and which uses waste as a regular or additional fuel or in which waste is thermally treated for the purpose of disposal through the incineration by oxidation of waste as well as other thermal treatment processes if the substances resulting from the treatment are subsequently incinerated;
- (30) 'nominal capacity' means the sum of the incineration capacities of the furnaces of which a waste incineration plant or a waste co-incineration plant is composed, as specified by the constructor and confirmed by the operator, with due account being taken of the calorific value of the waste, expressed as the quantity of waste incinerated per hour;
- (31) 'dioxins and furans' means all polychlorinated dibenzo-p-dioxins and dibenzofurans listed in Part 2 of Annex VI;
- (32) 'residue' means any liquid or solid waste which is generated by a waste incineration plant or waste co-incineration plant;
- (33) 'organic compound' 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;
- (34) 'volatile organic compound' means any organic compound as well as the fraction of

¹ OJ L 312, 22.11.2008, p. 3.

² Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste (OJ L 226, 6.9.2000, p. 3).

creosote, 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;

- (35) 'organic solvent' means any volatile organic compound which is used for any of the following:
- (a) alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials;
 - (b) as a cleaning agent to dissolve contaminants;
 - (c) as a dissolver;
 - (d) as a dispersion medium;
 - (e) as a viscosity adjuster;
 - (f) as a surface tension adjuster;
 - (g) a plasticiser;
 - (h) as a preservative;
- (36) 'coating' means 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 products¹;
- (37) ***'general binding rules' means emission limit values or other conditions, defined in environmental legislation, at least at sector level, that are laid down with the intention to be used directly to set permit conditions.***

Article 4

Obligation to hold a permit

1. Member States shall take the necessary measures to ensure that no installation or combustion plant, waste incineration plant or waste co-incineration plant is operated without a permit.

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

The procedure for registration shall be specified in a binding act and include at least a notification to the competent authority by the operator of the intention to operate an installation.

2. ***Member States may provide that*** a permit may cover two or more installations or parts of installations operated by the same operator on the same site or on different sites.

Where a permit covers two or more installations, each installation shall comply ***individually*** with the requirements of this Directive.

¹ OJ L 143, 30.4.2004, p. 87.

Article 5

Operators

Member States may provide that two or more natural or legal persons **are entitled to** be the joint operator of an installation or combustion plant, waste incineration plant or waste co-incineration plant, or **to** be the operators of different parts of an installation or plant. A **single natural or legal person shall be identified to take the responsibility for meeting the obligations of this Directive.**

Article 6

Granting of a permit

1. The competent authority shall grant a permit if the installation complies with the requirements of this Directive.
2. Member States shall take the measures necessary to ensure that the conditions of, and the procedures for the granting of, the permit are fully coordinated where more than one competent authority or more than one operator is involved or more than one permit is issued, in order to guarantee an effective integrated approach by all authorities competent for this procedure.
3. 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, 7 and 9 of that Directive shall be examined and used for the purposes of granting the permit.

Article 7

General binding rules

Without prejudice to the obligation to hold a permit, Member States may include requirements for certain categories of installations, combustion plants, waste incineration plants or waste co-incineration plants in general binding rules.

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

Article 8

Reporting on compliance

Member States shall take the necessary measures to ensure the following:

- (1) that the operator provides the competent authority with ***the relevant data*** on compliance with the permit conditions at least every ***24 months, which shall be made available on the internet without delay. In the event that a breach of permit conditions has been identified by an inspection in accordance with Article 25, the reporting frequency shall be increased to at least once every*** twelve months;
- (2) that the operator informs the competent authority without delay of any incident or

accident significantly affecting the environment.

Article 9

Non-compliance

1. Member States shall take the necessary measures to ensure that the conditions of the permit are complied with.
2. If it is found that the requirements of this Directive have been breached, Member States shall ensure the following:
 - (a) that the operator immediately informs the competent authority;
 - (b) that the operator and the competent authority take the measures necessary to ensure that compliance is restored within the shortest possible time.

In cases of a breach causing *significant* danger to human health or the environment and as long as compliance is not restored in accordance with point (b) of the first subparagraph, the operation of the installation or combustion plant, waste incineration plant or waste co-incineration plant shall be suspended.

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, 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. 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.

CHAPTER II

Special provisions for activities listed in Annex I

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 installations are operated in accordance with the following principles:

- (1) all the appropriate preventive measures are taken against pollution;
- (2) the best available techniques are applied;
- (3) no significant pollution is caused;
- (4) waste production is avoided in accordance with Directive 2008/98/EC;
- (5) where waste is produced, it is 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) the necessary measures are taken to prevent accidents and limit their consequences;
- (8) the necessary measures are taken upon definitive cessation of activities to avoid any risk of pollution and return the site of operation to *a satisfactory* state in accordance with *the requirements laid down in* Article 23(2) and (3).

Article 13

Applications for permits

1. Member States shall take the necessary measures to ensure that an application for a permit includes a description of the following:

- (a) the installation and its activities;
- (b) the raw and auxiliary materials, other substances and the energy used in or generated by the installation;
- (c) the sources of emissions from the installation;
- (d) the conditions *at* the site of the installation;
- (e) *if the activity involves significant amounts of relevant dangerous substances*, a baseline report *providing information on those substances*;
- (f) the nature and quantities of foreseeable emissions from the installation into each medium as well as identification of significant effects of the emissions on the environment;
- (g) the proposed technology and other techniques for preventing or, where this is not 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 12;
- (j) measures planned to monitor emissions into the environment;
- (k) the main *relevant* alternatives to the proposed technology, techniques and measures studied by the applicant in outline.

An application for a permit shall also include a non-technical summary of the details referred to in the first subparagraph *and, where applicable, a baseline report*.

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 or other information produced in response to other legislation fulfils any of the requirements of paragraph 1, that information may be included in, or attached to, the application.

Article 14

BAT reference documents *and exchange of information*

1. The Commission shall *organise exchanges of information between the Member States, representatives of their relevant competent authorities, operators and providers of techniques representing the industry concerned, non-governmental organisations promoting environmental protection, and the Commission in relation to the following:*

- (a) *the performance of installations as regards emissions, pollution, consumption and the nature of raw materials, use of energy and generation of waste; and*
- (b) *the best available techniques used, associated monitoring and developments concerning the best available techniques.*

For the organisation of the exchange of information referred to in this paragraph, the Commission shall establish an Information Exchange Forum comprised of the stakeholders referred to in the first subparagraph.

The Commission shall establish guidance for the exchange of information including relating to the collection of data and the determination of the content of BAT reference documents. The Commission shall publish an evaluation report in this regard. That report shall be made accessible on the internet.

2. *The Commission shall publish the result of the information exchange referred to in paragraph 1 as a new or updated BAT reference document.*

3. The BAT reference documents shall in particular describe the best available techniques, the associated emission levels, *consumption levels* and associated monitoring, the monitoring of soil and groundwater and remediation of the site and the emerging techniques, giving special consideration to the criteria listed in Annex

III, finalising the revision within eight years of the publication of the previous version. The Commission shall *ensure that the BAT conclusions of* the BAT reference documents *are made available in the official languages of the Member States.* **On request of a Member State, the Commission shall make available the entire BAT reference document in the requested language.**

Article 15

Permit conditions

1. Member States shall ensure that the permit includes all measures necessary for compliance with the requirements of Articles 12 and 19.

Those measures shall include at least the following:

- (a) emission limit values for polluting substances, listed in Annex II 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;
- (b) *if necessary*, appropriate requirements ensuring protection of the soil and groundwater and measures concerning the management of waste generated by the installation;
- (c) suitable release monitoring requirements, specifying measurement methodology and frequency, evaluation procedure and an obligation to supply the competent authority regularly with the results of the monitoring of releases and with other data required for checking compliance with the permit;
- (d) requirements of periodic monitoring in relation to **relevant** dangerous substances likely to be found *in significant amounts* on site having regard to the possibility of soil and groundwater contamination at the site of the installation;
- (e) measures relating to start-up, leaks, malfunctions, momentary stoppages and definitive cessation of operations;
- (f) provisions on the minimisation of long distance or transboundary pollution.

2. For the purpose of point (a) of || *paragraph 1*, emission limit values may be supplemented or replaced by equivalent parameters or technical measures.

3. BAT reference documents shall be the reference for setting the permit conditions.

4. Where an installation or part of an installation is not covered by BAT reference documents or where those documents do not address all the potential environmental effects of the activity, the competent authority, *in consultation with the operator*, shall determine **the emission levels which can be achieved using** the best available techniques for the installation or activities concerned, based on the criteria listed in Annex III, and shall set the permit conditions accordingly.

5. 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.

Article 16

Emission limit values, equivalent parameters and technical measures

1. The emission limit values for polluting substances shall apply at the point where the emissions leave the installation, and any dilution prior to that point shall be disregarded when determining those values.

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, provided that an equivalent level of protection of the environment as a whole is guaranteed and provided this does not lead to higher levels of pollution in the environment.

2. Without prejudice to Article 19, the emission limit values and the equivalent parameters and technical measures referred to in paragraphs 1 and 2 of Article 15 shall be based on the best available techniques, without prescribing the use of any technique or specific technology.

The competent authority shall set emission limit values *and monitoring and compliance requirements to ensure that the BAT associated emission levels are not exceeded.*

Emission limit values may be supplemented by equivalent parameters or technical measures provided that an equivalent level of environmental protection can be achieved.

3. By derogation from the second subparagraph of paragraph 2, the competent authority may, in *exceptional cases which result from the* 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, *equivalent parameters or technical measures, and monitoring and compliance requirements in such a way that BAT associated emission levels may be exceeded.*

Those emission limit values, *equivalent parameters or technical measures* shall however not exceed the emission limit values set out *in accordance with Article 68 or, where applicable,* in Annexes V to VIII.

Member States shall ensure that the public concerned is given early and effective opportunities to participate in the decision-making process relating to the grant of the derogation referred to in this paragraph.

When emission limit values, equivalent parameters and technical measures are established in accordance with this paragraph, the reasons for allowing emission levels to deviate from BAT associated emission levels, as described in the BAT reference documents, shall be documented and justified in an annex to the permit conditions.

The Commission may establish criteria for the granting of the derogation referred to in this paragraph.

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).

4. Paragraphs 2 and 3 shall apply to the spreading of livestock manure and slurry

outside the site of the installation referred to in point 6.6 of Annex I, ***with the exception of areas included within the scope of Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources***¹.

5. The competent authority may grant temporary derogations from the requirements of paragraph 2 and from points (1) and (2) of || Article 12 for increases in emissions which result from the testing and use of emerging techniques provided that within 6 months of the granting of the derogation the use of those techniques is either 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.

2. The frequency of the periodic 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.

Without prejudice to the first subparagraph, periodic monitoring shall be carried out at least once every ***five years for groundwater and ten years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.***

The Commission may establish criteria for the determination of the frequency of the periodic monitoring.

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).

Article 18

General binding rules

1. When adopting general binding rules, Member States shall ensure an integrated approach and a high level of environmental protection equivalent to that achievable with individual permit conditions.

2. General binding rules shall be based on the best available techniques, without prescribing the use of any technique or specific technology ***in order to ensure compliance with Articles 15 and 16.***

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3. Member States shall ensure that general binding rules are kept up to date with developments in the best available techniques ***in order to ensure compliance with Article 22.***

¹ ***OJ L 375, 31.12.1991, p. 1.***

4. General binding rules adopted in accordance with paragraphs 1 to 3 shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication.

Article 19

Environmental quality standards

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

Article 20

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, *also informing the public concerned*.

Article 21

Changes by operators to installations

1. Member States shall take the necessary measures to ensure that the operator informs the competent authority of any planned change in the nature or functioning, or an extension of the installation which may have consequences for the environment. Where appropriate, the competent authority shall update the permit.

2. Member States shall take the necessary measures to ensure that no substantial change 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 shall cover those parts of the installation and those details listed in Article 13 which may be affected by the substantial change.

3. Any change in the nature or functioning or an extension of an installation shall be deemed to be substantial if the change or extension in itself reaches the capacity thresholds set out in Annex I.

Article 22

Reconsideration and updating of permit conditions by the competent authority

1. Member States shall take the necessary measures to ensure that the competent authority periodically reconsiders all permit conditions and, where necessary to ensure compliance with this Directive, updates those conditions.

2. On request of the competent authority the operator shall submit all the information necessary for the purpose of reconsidering the permit conditions.

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

3. Where the Commission ***publishes*** a new or updated BAT reference document, Member States shall, within four years of publication, ensure that the competent authority reconsiders and, ***where necessary***, updates the permit conditions for the installations concerned.

The first subparagraph shall apply to any derogation granted in accordance with Article 16(3).

4. The permit conditions shall be reconsidered and, where necessary, updated at least in the following cases:

- (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;
- (b) ***significant changes*** in the best available techniques allow for the significant reduction of emissions;
- (c) the operational safety requires other techniques to be used;
- (d) where ***needed for compliance with Directive 2001/81/EC or*** with an environmental quality standard in accordance with Article 19.

Article 23

Site closure and remediation

1. Without prejudice to Directive 2004/35/CE, ***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 deterioration¹, to Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through criminal law²*** and to Directive 2009/.../EC of the European Parliament and of the Council *of...* establishing a framework for the protection of soil³⁺ 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.

2. Where the activity involves the use, production or release of ***significant amounts of relevant*** dangerous substances having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall prepare a baseline report before starting operation of an installation or before a permit for an installation is updated. That report shall contain the quantified information necessary to determine the initial state of the soil and the groundwater ***with regard to significant amounts of relevant dangerous substances***.

¹ ***OJ L 372, 27.12.2006, p. 19***

² ***OJ L 328, 6.12.2008, p. 28.***

³ ***OJ L***

⁺ ***OJ: please insert number, date and publication reference.***

The Commission shall establish ***the general*** criteria on the content of the baseline report.

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).

3. Upon definitive cessation of the activities, the operator shall ***inform the competent authority and*** assess the state of the soil and groundwater contamination by dangerous substances. Where the installation has caused any pollution by dangerous substances of soil or groundwater compared to the initial state established in the baseline report referred to in paragraph 2, the operator shall remediate the site and return it to that initial state.

4. 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 does not pose any significant risk to human health and the environment.

Article 24

Comparison of emissions with best available techniques associated emission levels

The ***relevant data*** on compliance ***with the permit conditions*** referred to in point (1) of Article 8 shall include a comparison between the ■ emissions and the best available techniques ***associated emissions levels*** as described in the BAT reference documents. ***That relevant data shall be made accessible on the internet without delay.***

Article 25

Inspections

1. Member States shall set up a system of inspections of installations.

That system shall include on site inspections.

Member States shall ensure that operators afford the competent authorities all necessary assistance to enable those authorities to carry out any on site inspections, 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 inspection plan.

3. Each 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 inspection plan and a general appraisal of their state of compliance with the requirements of this Directive;
- (d) provisions for its revision;
- (e) an outline of the programmes for routine inspections pursuant to paragraph 5;

- (f) procedures for non-routine inspections pursuant to paragraph 6;
- (g) where necessary, provisions on the co-operation between different inspection authorities.

4. Based on the inspection plans, the competent *authorities* shall regularly draw up inspection programmes, determining the frequency of site visits for different types of installations.

Member States shall ensure that a sufficient number of skilled persons are available to carry out the inspections.

Those programmes shall include at least one ***random*** site visit every ***18 months***, for each installation. ***This frequency shall be increased to at least every six months if an inspection has identified a case of non-compliance with the permit conditions.***

Where those programmes are based on a systematic appraisal of the environmental risks of the particular installations concerned, ***the frequency of site visits may be lowered to a minimum of one every 24 months.***

The systematic appraisal of the environmental risks shall be based on objective criteria such as:

- (a) ***the record of the operators' compliance with the conditions of the permit;***
- (b) ***the impacts of the installation on the environment and human health;***
- (c) ***the participation of the operator in the Community eco-management and audit scheme (EMAS), pursuant to Regulation (EC) No 761/2001¹, or the implementation of equivalent eco-management systems.***

The Commission ***may*** establish ***further*** criteria on the appraisal of the environmental risks.

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).

5. Routine inspections shall be sufficient for the examination of the full range of relevant environmental effects from the installation concerned.

Routine inspections shall ensure that the operator complies with the permit conditions.

Routine inspections shall also serve to assess the effectiveness of the permit requirements.

6. Non-routine ***random*** inspections shall be carried out to investigate serious ***and qualified*** environmental complaints, serious environmental accidents, incidents and occurrences of non-compliance ***or facts that seriously affect human health*** as soon as possible and, where appropriate, before the issue, reconsideration or update of a permit.

¹ ***Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS) (OJ L 114, 24.4.2001, p. 1).***

When carrying out such a non-routine inspection, the competent authorities may require operators to provide information in order to investigate the content of an accident, incident or occurrence of non-compliance, including health statistics.

7. Following each routine and non-routine inspection, the competent authority shall prepare a report describing the findings as to compliance of the installation with the requirements of this Directive and conclusions on whether any further action is necessary.

The report shall be notified to the operator concerned ***within two months. The report shall be made publicly available on the internet by the competent authority*** within ***four months*** after the inspection takes place.

The competent authority shall ensure that all the necessary actions identified in the report are taken within a reasonable period.

Article 26

Access to information and public participation in the permit procedure

1. Member States shall ensure that the public concerned are given early and effective opportunities to participate in the following procedures:
 - (a) issuing of a permit for new installations;
 - (b) issuing of a permit for any substantial change;
 - (c) updating of a permit or permit conditions for an installation in accordance with point (a) of Article 22(4).
 - (d) ***updating a permit or permit conditions for an installation where a derogation is to be granted in accordance with Article 16(3).***

The procedure set out in Annex IV shall apply to such participation.

Non-governmental organisations promoting environmental protection and meeting the requirements of any relevant national law shall be deemed to have an interest.

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2. When a decision on granting, reconsideration or updating of a permit ■ has been taken, the competent authority ***shall inform the public and*** shall make available to the public ***without delay*** the following information:
 - (a) the content of the decision, including a copy of the permit and any subsequent updates;
 - (b) the reasons on which the decision is based;
 - (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;
 - (d) the title of the BAT reference documents relevant to the installation or activity

concerned;

- (e) how the *permit conditions referred to in Article 15* have been determined in relation to the best available techniques and associated emission levels as described in the BAT reference documents;
- (f) where a derogation is granted in accordance with Article 16(3), the *specific* reasons for that derogation *based on the criteria laid down in that paragraph* and the conditions imposed;
- (g) the result of the reconsideration ■ of permits as referred to in Article 22(1), (3) and (4);
- (h) the results of monitoring of releases as required under the permit conditions and held by the competent authority.

Member States shall ensure that the information referred to in points (a) to (g) is made available on the internet without delay.

3. 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 information¹.

Article 27

Access to justice

1. 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) they have a sufficient interest;
 - (b) they maintain the impairment of a right, where administrative procedural law of a Member State requires this as a precondition.
2. Member States shall determine at what stage the decisions, acts or omissions may be challenged.
3. What constitutes a sufficient interest and impairment of a right shall be determined by Member States, consistently with the objective of giving the public concerned wide access to justice.

To this end, the interest of any non-governmental organisation promoting environmental protection and meeting any requirements under national law shall be deemed sufficient for the purpose of point (a) of paragraph 1.

Such organisations shall also be deemed to have rights capable of being impaired for the purpose of point (b) of paragraph 1.

¹ OJ L 41, 14.2.2003, p. 26.

4. The provisions of paragraphs 1, 2 and 3 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. Member States shall ensure that practical information is made available to the public on access to administrative and judicial review procedures.

Article 28

Transboundary effects

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 which is likely to be significantly affected so requests, the Member State in whose territory the application for a permit pursuant to Article 4 or Article 21(2) was submitted shall forward to the other Member State any information required to be given or made available pursuant to Annex IV at the same time as it makes it available to the public.

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.

2. Within the framework of their bilateral relations, Member States shall 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.

3. The results of any consultations pursuant to paragraphs 1 and 2 shall be taken into consideration when the competent authority reaches a decision on the application.

4. The competent authority shall inform any Member State which has been consulted pursuant to paragraph 1 of the decision reached on the application and shall forward to it the information referred to in Article 26(2). 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.



Article 29

Emerging techniques

Member States shall establish incentives for operators to develop and apply emerging techniques.

For the purpose of the first subparagraph, the Commission shall adopt **the following criteria:**

- (a) the type of industrial activities for prioritised development and application of emerging techniques;

- (b) indicative targets for Member States regarding the development and application of emerging techniques;
- (c) the tools to assess the progress made in developing and applying emerging 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).

CHAPTER III

Special provisions for combustion plants

Article 30

Scope

This *Chapter* shall apply to combustion plants designed for production of energy, the rated thermal input of which is equal to or greater than 50 MW, irrespective of the type of fuel used.

This *Chapter* shall not apply to the following combustion plants:

- (a) plants in which the products of combustion are used for the direct heating, drying, or any other treatment of objects or materials;
- (b) post-combustion plants designed to purify the waste gases by combustion which are not operated as independent combustion plants;
- (c) facilities for the regeneration of catalytic cracking catalysts;
- (d) facilities for the conversion of hydrogen sulphide into sulphur;
- (e) reactors used in the chemical industry;
- (f) coke battery furnaces;
- (g) cowpers;
- (h) any technical apparatus used in the propulsion of a vehicle, ship or aircraft;
- (i) gas turbines used on offshore platforms;
- (j) plants which use any solid or liquid waste as a fuel other than waste referred to in point (a) of *Article 37(2)*.

Articles 31, 32 and 35 shall not apply to combustion installations when these are covered by a sector-specific BAT reference document and when they are excluded from the scope of the Large Combustion Plant BAT reference document.

Article 31

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.
2. Where two or more separate combustion plants which have been granted a permit or have submitted a complete application after the date referred to in Article 72(2) are installed in such a way that, taking technical and economic factors into account, their waste gases could be discharged through a common stack, the combination formed by such plants shall be considered as a single combustion plant and their capacities added.

Article 32

Emission limit values

1. Waste gases from combustion plants shall be discharged in a controlled way by means of a stack, containing one or more flues, the height of which is calculated in such a way as to safeguard human health and the environment.
2. All permits for installations containing combustion plants 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 1 of Annex V.
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.
4. The competent authority may grant a derogation for a maximum of six months from the obligation to comply with the emission limit values provided for in paragraphs 2 and 3 for sulphur dioxide in respect of a combustion plant which to this end normally uses low-sulphur fuel, in cases where the operator is unable to comply with those limit values because of an interruption in the supply of low-sulphur fuel resulting from a serious shortage.

Member States shall immediately inform the Commission of any derogation granted under the first subparagraph.

5. The competent authority may grant a derogation from the obligation to comply with the emission limit values provided for in paragraphs 2 and 3 in cases where a combustion plant using only gaseous fuel has to resort exceptionally to the use of other fuels because of a sudden interruption in the supply of gas and for this reason would need to be equipped with a waste gas purification facility. The period for which such a derogation is granted shall not exceed 10 days except where there is an overriding need to maintain energy supplies.

The operator shall immediately inform the competent authority of each specific case referred to in the first subparagraph.

Member States shall inform the Commission immediately of any derogation granted under the first subparagraph.

6. Where a combustion plant is extended **by at least 20 MW**, the emission limit values specified in part 2 of Annex V shall apply to the part of the plant affected by the change and shall be set in relation to the rated thermal input of the entire combustion plant.

Article 33

Malfunction or breakdown of the abatement equipment

1. Member States shall ensure that provision is made in the permits for procedures relating to malfunction or breakdown of the abatement equipment.

2. In the case of a breakdown the competent authority shall 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.

The operator shall notify the competent authority within 48 hours after the malfunction or breakdown of the abatement equipment.

The cumulative duration of unabated operation shall not exceed 120 hours in any 12-month period.

The competent authority may grant a derogation from the time limits set out in the first and third subparagraphs in one of the following cases:

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

Article 34

Monitoring of emissions into air

1. Member States shall ensure that the monitoring of air polluting substances is carried out in accordance with Part 3 of Annex V. **Member States may require that such monitoring be carried out at the operator's expense.**

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.

Article 35

Compliance with emission limit values

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.

Article 36

Multi-fuel firing combustion plants

1. In the case of a multi- fuel firing combustion plant involving the simultaneous use of two or more fuels, the competent authority shall set the emission limit values in accordance with the following steps:

- (a) take the emission limit value relevant for each individual fuel and pollutant corresponding to the rated thermal input of the entire combustion plant as set out in Parts 1 and 2 of Annex V,
- (b) determine fuel-weighted emission limit values, which are obtained by multiplying the individual emission limit value referred to in point (a) by the thermal input delivered by each fuel, and dividing the product of multiplication by the sum of the thermal inputs delivered by all fuels,
- (c) aggregate the fuel-weighted emissions limit values.

2. In *the* case of multi- fuel firing combustion plants using the distillation and conversion residues from refining of crude-oil for own consumption, alone or with other fuels, the Commission may amend paragraph 1 to set an average emission limit value for sulphur dioxide covering all such plants with a rated thermal input of 50 MW or more.

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).

Chapter IV

Special provisions for waste incineration plants and waste co-incineration plants

Article 37

Scope

1. This Chapter shall apply to waste incineration plants and waste co-incineration plants which incinerate or co-incinerate solid or liquid waste.

For the purposes of this Chapter waste incineration plants and waste co-incineration plants shall include all incineration lines or co-incineration lines, waste reception, storage, on site pretreatment facilities, waste-fuel and air-supply systems, boiler, facilities for the treatment of waste gases, on-site facilities for treatment or storage of residues and waste water, stack, devices and systems for controlling incineration or co-incineration operations, recording and monitoring incineration or co-incineration conditions.

If co-incineration takes place in such a way that the main purpose of the plant is || the thermal treatment of waste *rather than the generation of energy or production of material products*, the plant shall be regarded as a waste incineration plant.

2. This Chapter shall not apply to the following plants:

- (a) plants treating only the following wastes:
 - (i) waste listed in point (b) of *Article 3(22)*,
 - (ii) radioactive waste,
 - (iii) animal carcasses as regulated by 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;
 - (iv) waste resulting from the exploration for, and the exploitation of, oil and gas resources from off-shore installations and incinerated on board the installations;
- (b) 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 38

Applications for permits

An application for a permit for a waste incineration plant or waste co-incineration plant shall include a description of the measures which are envisaged to guarantee that the following requirements are met:

- (a) the plant is designed, equipped and will be maintained and operated in such a manner that the requirements of this Chapter 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 through the generation of heat, steam or power;
- (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.

Article 39

Permit conditions

¹ OJ L 273, 10.10.2002, p. 1.

1. The permit shall include the following:
 - (a) a list of all categories of waste which may be treated using at least the categories of waste set up in the European Waste List established by Commission Decision 2000/532/EC, and containing information on the quantity of each category of waste, where appropriate;
 - (b) the total waste incinerating or co-incinerating capacity of the plant;
 - (c) the limit values for emissions to air and water;
 - (d) the requirements for the pH, temperature and flow of waste water discharges;
 - (e) the sampling and measurement procedures and frequencies to be used to comply with the conditions set for emission monitoring;
 - (f) the maximum permissible period of any technically unavoidable stoppages, disturbances, or failures of the purification devices or the measurement devices, during which the emissions into the air and the discharges of waste water may exceed the prescribed emission limit values.
2. In addition to the requirements set out in paragraph 1, the permit granted to a waste incineration plant or waste co-incineration plant using hazardous waste shall include the following:
 - (a) a list of the quantities of the different categories of hazardous waste which may be treated;
 - (b) the minimum and maximum mass flows of those hazardous wastes, their lowest and maximum calorific values and their maximum contents of PCB, PCP, chlorine, fluorine, sulphur, heavy metals and other polluting substances.
3. Member States may list the categories of waste to be included in the permit which can be co-incinerated in certain categories of waste co-incineration plants.
4. The competent authority shall periodically reconsider and, where necessary, update permit conditions.

Article 40

Control of emissions

1. Waste gases from waste incineration plants and waste co-incineration plants shall be discharged in a controlled way by means of a stack the height of which is calculated in such a way as to safeguard human health and the environment.
2. 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.

If in a waste co-incineration plant more than 40 % of the resulting heat release comes from hazardous waste, or the plant co-incinerates untreated mixed municipal waste, the emission limit values set out in Part 3 of Annex VI shall apply.
3. Discharges to the aquatic environment of waste water resulting from the cleaning of

waste gases shall be limited as far as practicable and the concentrations of polluting substances shall not exceed the emission limit values set out in Part 5 of Annex VI.

4. The emission limit values shall apply at the point where waste waters from the cleaning of waste gases are discharged from the waste incineration plant or waste co-incineration plant.

When waste waters from the cleaning of waste gases are treated outside the waste incineration plant or waste co-incineration plant at a treatment plant intended only for the treatment of this sort of waste water, the emission limit values set out in Part 5 of Annex VI *shall* be applied at the point where the waste waters leave the treatment plant. 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, the operator shall make the appropriate mass balance calculations, using the results of the measurements set out in point 2 of Part 6 of Annex VI 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 waste gases.

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

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

Storage capacity shall be provided for contaminated rainwater run-off from the waste incineration plant site or waste 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.

6. Without prejudice to *Article 44(4)(c)*, the waste incineration plant or waste co-incineration plant or individual furnaces being part of a waste incineration plant or waste co-incineration plant shall under no circumstances continue to incinerate waste for a period of more than four hours uninterrupted where emission limit values are exceeded.

The cumulative duration of operation in such conditions over one year shall not exceed 60 hours.

The time limit set out in the second subparagraph shall apply to those furnaces which are linked to one single waste gas cleaning device.

Article 41

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.

Article 42

Monitoring of emissions

1. Member States shall ensure that the monitoring of emissions is carried out in accordance with Parts 6 and 7 of Annex VI.
2. The installation and functioning of the automated measuring systems shall be subject to control and to annual surveillance tests as set out in point 1 of Part 6 of Annex VI.
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 *such 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.
5. The Commission shall, as soon as appropriate measurement techniques are available within the Community, set the date from which continuous measurements of the emissions to air of heavy metals and dioxins and furans shall be carried out.

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).

Article 43

Compliance with emission limit values

The emission limit values for air and water shall be regarded as being complied with if the conditions described in Part 8 of Annex VI are fulfilled.

Article 44

Operating conditions

1. Waste incineration plants shall be operated in *such a way* || as to achieve a level of incineration such that the total organic carbon content of slag and bottom ashes is less than 3 % or their loss on ignition is less than 5 % of the dry weight of the material. If necessary, waste pre-treatment techniques shall be used.
2. Waste incineration plants and waste co-incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the incineration or co-incineration of waste 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 at least 850 °C for at least two seconds.

If hazardous waste with a content of more than 1 % of halogenated organic substances, expressed as chlorine, is incinerated or co-incinerated, the temperature required to comply with the first subparagraph shall be at least 1100°C.

In waste incineration plants, the temperatures set out in the first and second subparagraphs shall be measured near the inner wall of the combustion chamber. The competent authority may *authorise* the measurements at another representative point of the combustion chamber.

3. Each combustion chamber of a waste incineration plant shall be equipped with at least one auxiliary burner. This burner shall be switched on automatically when the temperature of the combustion gases after the last injection of combustion air falls below the temperatures set out in paragraph 2. It shall also be used during plant start-up and shut-down operations in order to ensure that those temperatures are maintained at all times during these operations and as long as unburned waste is in the combustion chamber.

The 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/EEC of 23 March 1993 relating to the sulphur content of certain liquid fuels¹, liquefied gas or natural gas.

4. Waste incineration plants and waste co-incineration plants shall operate an automatic system to prevent waste feed in the following situations:

- (a) at start-up, until the temperature set out in paragraph 2 or the temperature specified according to *Article 45(1)* has been reached;
- (b) whenever the temperature set out in paragraph 2 or the temperature specified according to *Article 45(1)* is not maintained;
- (c) whenever the continuous measurements show that any emission limit value is exceeded due to disturbances or failures of the waste gas cleaning devices.

5. Any heat generated by waste incineration plants or waste co-incineration plants shall be recovered as far as practicable.

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

7. Member States shall ensure that the waste incineration plant or waste co-incineration plant is operated and controlled by a natural person who is competent to manage the plant.

Article 45

Authorisation to change operation conditions

1. Conditions different from those laid down in paragraphs 1, 2 and 3 of *Article 44* and, as regards the temperature, paragraph 4 of that Article and specified in the permit for certain categories of waste or for certain thermal processes may be authorised by the competent authority, provided the other requirements of this Chapter are met. Member States may lay down rules governing these authorisations.

2. For waste incineration plants, the change of the operational conditions shall not cause more residues or residues with a higher content of organic polluting substances compared to those residues which could be expected under the conditions laid down in paragraphs 1, 2 and 3 of *Article 44*.

3. Waste co-incineration plants, authorised to change operational conditions according to paragraph 1 shall comply with at least the emission limit values set out in Part 3 of Annex VI for total organic carbon and CO.

¹ OJ L 74, 27.3.1993, p. 81.

Boilers within the pulp and paper industry co-incinerating bark waste at the place of its production which were in operation and had a permit before 28 December 2002 and which are authorised to change operational conditions according to paragraph 1 shall comply with, at least the emission limit values set out in Part 3 of Annex VI for total organic carbon

4. Member States shall communicate to the Commission all operating conditions authorised under paragraphs 1, 2 and 3 and the results of verifications made as part of the information provided in accordance with the reporting requirements under *Article 66*.

Article 46

Delivery and reception of waste

1. The operator of the waste incineration plant or waste 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 the pollution of air, soil, surface water and groundwater as well as other negative effects on the environment, odours and noise, and direct risks to human health.

2. The operator shall determine the mass of each category of waste, according to the European Waste List established by Commission Decision 2000/532/EC, prior to accepting the waste at the waste incineration plant or waste co-incineration plant.

3. Prior to accepting hazardous waste at the waste incineration plant or waste co-incineration plant, the operator shall collect available information about the waste for the purpose of verifying compliance with the permit requirements specified in *Article 39(2)*.

That 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 waste incineration plant or waste co-incineration plant, at least the following procedures shall be carried out by the operator:
- (a) the checking of the documents required by Directive 2008/98/EC 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 Community¹ and by legislation on transport of dangerous goods;
 - (b) the taking of representative samples, unless inappropriate 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.

The samples referred to in point (b) shall be kept for at least one month after the incineration or co-incineration of the waste concerned.

¹ OJ L 30, 6.2.1993, p. 1.

5. The competent authority may grant exemptions from paragraphs 2, 3 and 4 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.

Article 47

Residues

1. Residues shall be minimised in their amount and harmfulness. Residues shall be recycled, where appropriate, directly in the plant or outside.
2. Transport and intermediate storage of dry residues in the form of dust shall take place in such a way as to prevent dispersal of those residues in the environment.
3. Prior to determining the routes for the disposal or recycling of the residues, appropriate tests shall be carried out to establish the physical and chemical characteristics and the polluting potential of the residues. Those tests shall concern the total soluble fraction and heavy metals soluble fraction.

Article 48

Substantial change

A change of operation of a waste incineration plant or a waste co-incineration plant treating only non-hazardous waste in an installation covered by Chapter II which involves the incineration or co-incineration of hazardous waste shall be regarded as a substantial change.

Article 49

Reporting and public information on waste incineration plants and waste co-incineration plants

1. Applications for new permits for waste incineration plants and waste co-incineration plants shall be made available to the public at one or more locations for an appropriate period to enable the public to comment on the applications 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 66* shall include information on the functioning and monitoring of the plant 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.
3. A list of waste incineration plants or waste 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.

Chapter V

Special provisions for installations and activities using organic solvents

Article 50

Scope

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 51

Definitions

For the purposes of this Chapter, the following definitions shall apply:

- (1) 'existing installation' means an installation in operation which has been granted a permit 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;
- (2) 'waste gases' means the final gaseous discharge containing volatile organic compounds or other pollutants from a stack or abatement equipment into air;
- (3) 'fugitive emissions' means any emissions not in waste gases of volatile organic compounds into air, soil and water as well as solvents contained in any products, unless otherwise stated in Part 2 of Annex VII.;
- (4) 'total emissions' means the sum of fugitive emissions and emissions in waste gases;
- (5) '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,
- (6) 'adhesive' means any mixture, including all the organic solvents or mixtures containing organic solvents necessary for its proper application, which is used to adhere separate parts of a product;
- (7) 'ink' means a mixture, including all the organic solvents or mixtures 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) 'varnish' means a transparent coating;
- (9) 'consumption' means the total input of organic solvents into an installation per calendar year, or any other 12-month period, less any volatile organic compounds that are recovered for reuse;
- (10) 'input' means the quantity of organic solvents and their quantity in mixtures used when carrying out an activity, including the solvents recycled inside and outside the

¹ OJ L 396, 30.12.2006, p. 1.

installation, and which are counted every time they are used to carry out the activity;

- (11) 'reuse' means 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;
- (12) 'contained conditions' means conditions under which an installation is operated so that the volatile organic compounds 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;
- (13) 'start-up and shut-down operations' means operations excluding regularly oscillating activity phases whilst bringing an activity, an equipment item or a tank into or out of service or into or out of an idling state,

Article 52

Substitution of hazardous substances

Substances or mixtures which, because of their content of volatile organic compounds, are classified as carcinogens, mutagens, or toxic to reproduction under Directive 67/548/EEC, are assigned or need to carry the risk phrases R45, R46, R49, R60 or R61, shall be replaced, as far as possible by less harmful substances or mixtures within the shortest possible time.

Article 53

Control of emissions

- 1. Member States shall take the necessary measures to ensure either of the following:
 - (a) 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 Parts 2 and 3 of Annex VII are complied with;
 - (b) installations comply with the requirements of the reduction scheme set out in Part 5 of Annex VII provided that an equivalent emission reduction is achieved compared to that achieved through the application of the emission limit values referred to in point (a).

Member States shall report to the Commission in accordance with *Article 66(1)* on the progress in achieving the equivalent emission reduction referred to in point (b).

- 2. By derogation from point (a) of paragraph 1, where the operator demonstrates to the competent authority that for an individual installation the emission limit value for fugitive emissions is not technically and economically feasible, the competent authority may allow emissions to exceed that emission limit value provided that significant risks to human health or the environment are not to be expected and that the operator demonstrates to the competent authority that the best available techniques are 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.
4. Member States shall report to the Commission on the *derogations* referred to in paragraphs 2 and 3 in accordance with *Article 66(2)*.
5. The emissions of volatile organic compounds which are assigned or need to carry the risk phrases R40, R45, R46, R49, R60, R61 or R68 shall be controlled under contained conditions as far as technically and economically feasible to safeguard public health and the environment and shall not exceed the emission limit values set out in Part 4 of Annex VII.
6. Installations where two or more activities are carried out, each of which exceeds the thresholds in Part 2 of Annex VII shall:
 - (a) as regards the substances specified in paragraph 5, meet the requirements of that paragraph for each activity individually;
 - (b) as regards all other substances, either:
 - (i) meet the requirements of paragraph 1 for each activity individually; or
 - (ii) have total emissions of volatile organic compounds not exceeding those which would have resulted had point (i) been applied.
7. All appropriate precautions shall be taken to minimise emissions of volatile organic compounds during start-up and shut-down operations.

Article 54

Monitoring of emissions

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 55

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.

Article 56

Reporting on compliance

The report on compliance referred to in paragraph 1 of Article 8 shall demonstrate compliance with either of the following:

- (a) emission limit values in waste gases, fugitive emission limit values and total emission limit values;
- (b) the requirements of the reduction scheme under Part 5 of Annex VII;
- (c) the derogations granted in accordance with paragraphs 2 and 3 of *Article 53*

The report on compliance may include a solvent management plan prepared in accordance with Part 7 of Annex VII .

Article 57

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:
 - 25 % for an installation having activities falling within the lower threshold band of items 1, 3, 4, 5, 8, 10, 13, 16 or 17 of Part 2 of Annex VII or, for the other activities of Part 2 of Annex VII, having a solvent consumption of less than 10 tonnes per year;
 - 10 % for all other installations.
2. Where an existing installation undergoes a substantial change, or falls 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.
3. In *the* case of a substantial change, the competent authority shall check compliance of the installation with the requirements of this Directive.

Article 58

Exchange of information on substitution of organic solvents

The Commission shall organise an exchange of information with the Member States, the industry concerned and non-governmental organisations promoting environmental protection on the use of organic solvents and their potential substitutes and techniques which have the least potential effects on air, water, soil, ecosystems and human health.

The exchange of information shall be *organised* 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;
- (d) the economic consequences, in particular the costs and benefits of the options available.

Article 59

Access to information

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

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

2. The results of the monitoring of emissions as required under *Article 54* and held by the competent authority shall be made available to the public.

3. Paragraphs 1 and 2 shall apply, subject to the restrictions laid down in Article 4(1) and (2) of Directive 2003/4/EC.

Chapter VI

Special provisions for installations producing titanium dioxide

Article 60

Scope

This Chapter shall apply to installations producing titanium dioxide.

Article 61

Prohibition of the disposal of waste

Member States shall prohibit the disposal of the following waste into any water body, sea or ocean:

- (1) solid waste;
- (2) the mother liquors arising from the filtration phase following hydrolysis of the titanyl sulphate solution from installations applying the sulphate process; including the acid waste associated with such liquors, containing overall more than 0.5% free sulphuric acid and various heavy metals, including acid waste which has been diluted until it contains 0,5 % or less free sulphuric acid;
- (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 the waste mentioned under paragraphs (2) and (3) and containing various heavy metals, but not including *neutralised* and filtered or decanted waste containing only traces of heavy metals and which, before any dilution, has a pH value above 5,5.

Article 62

Control of emissions into water

1. Emissions from installations into water shall not exceed the emission limit values set out in Part 1 of Annex VIII.
2. Member States shall take the necessary measures to ensure that acute toxicity tests are carried out in accordance with point 1 of Part 2 of Annex VIII and that the results of those tests comply with the values set out in point 2 of Part 2 of Annex VIII.

Article 63

Prevention and control of emissions into air

1. The emission of acid droplets from the installations shall be prevented.
2. Emissions to air from the installations shall not exceed the emission limit values set out in Part 3 of Annex VIII.

Article 64

Monitoring of emissions and the environment

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 62*.
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 63*.

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

3. Member States shall ensure the monitoring of the environment affected by discharges of waste from installations producing titanium dioxide into water in accordance with Part 4 of Annex VIII.
4. 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.

Chapter VII

Committee, transitional and final provisions

Article 65

Competent authorities

Member States shall designate the competent authorities and bodies responsible for carrying out the obligations arising from this Directive.

Article 66

Reporting by Member States

1. Member States shall ensure that information is made available to the Commission on the implementation of this Directive, on representative data on the emissions and other environmental effects, on emission limit values and on the application of best available techniques in accordance with Articles 15 and 16 ***and on the derogations granted in accordance with Article 16(3).***

Member States shall develop and regularly upgrade national information systems to make available *to the Commission* in an electronic format the information referred to in the first subparagraph. ***Member States shall make available to the public a summary of the information provided.***

2. The Commission shall establish the type and format of the information to be made available by the Member States pursuant to paragraph 1.

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).

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.

Article 67

Amendments of Annexes

1. On the basis of ***the*** best available techniques ***as described in the BAT reference documents concerned***, the Commission shall, ***within 12 months of the publication of a BAT reference document in accordance with Article 14, based on the BAT conclusions in the BAT reference document, adjust Annexes V, VI, VII, VIII by setting emission limit values as minimum requirements. Emission limit values may be supplemented by equivalent parameters or technical measures and monitoring and compliance requirements provided that an equivalent level of environmental protection can be achieved.***

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).

2. *Before the adoption of the measures referred to in the first paragraph, the Commission shall consult the relevant industry and non-governmental organisations promoting environmental protection and shall report on the outcome of the consultations and how they have been taken into account.*

Article 68

Minimum requirements

1. *Without prejudice to Article 67, the Commission shall, within 12 months of the publication of a BAT reference document in accordance with Article 14, based on the BAT conclusions in the BAT reference document, set emission limit values as well as monitoring and compliance requirements as minimum requirements. Emission limit values may be supplemented by equivalent parameters or technical measures where an equivalent level of environmental protection can be achieved by such equivalent parameters.*

Such minimum requirements shall be directed to significant environmental impacts of the activities or installations concerned, and shall be based on BAT-AEL.

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).

2. *Before the adoption of the implementing measures referred to in the first paragraph, the Commission shall consult the relevant industry organisations and non-governmental organisations promoting environmental protection and shall report on the outcome of the consultations and how they have been taken into account.*

3. *In accordance with paragraphs 1 and 2, the Commission shall, in particular, by 31 December 2011 set emission limit values as well as monitoring and compliance requirements for dioxins and furans emitted by installations carrying out the activities referred to in points 2.1 and 2.2 of Annex I.*

Member States or their competent authorities may set stricter emission limit values for dioxin and furan emissions.

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).

Article 69

Committee procedure

1. The Commission shall be assisted by a committee.

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.

Article 70

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 ... at the latest and shall notify it without delay of any subsequent amendment affecting them.

Article 71

Transposition

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with Articles 2, 3(4), 3(15)-(18), (20), 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) c)-g), 29, 31, 32(3), 34(2)-(4), 35, 36(2), 42(5), 64(2), 64(4), 65-66 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 ...* at the latest. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

They shall apply those provisions from ...*. 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.

Article 72

Repeal

1. Directives 78/176/EEC, 82/883/EEC, 92/112/EEC, 96/61/EC, 1999/13/EC and 2000/76/EC, as amended by the acts listed in Annex IX, Part A are repealed with effect from ...**, 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.

* 18 months after the date of entry into force of this Directive.

** 3 years after the date of entry into force of this Directive.

Article 73

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 ...^{*}).

2. In relation to installations referred to in Annex I, in point (c) of point 2.5, points (c), (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 ...^{**}.

3. In relation to combustion plants covered by Chapter III, Member States shall apply the laws, regulations and administrative provisions adopted in accordance with Article 71(1) from 1 January 2016.

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.

Article 75

Addressees

This Directive is addressed to the Member States.

Done at,

^{*} 3 years after the date of entry into force of this Directive.

^{**} 54 months after the date of entry into force of this Directive.

For the European Parliament
The President

For the Council
The President

ANNEX I

Categories of industrial activities referred to in Article 11

The threshold values given below generally refer to production capacities or outputs. Where several activities falling under the same point are operated in the same installation, the capacities of such activities are added together.

When calculating the total rated thermal input of installations referred to in point 1.1. for combustion plants used in healthcare facilities, only the normal running capacity shall be included for the purposes of this calculation.

When calculating the total rated thermal input of installations referred to in point 1.1, combustion plants with a rated thermal input below 3 MW shall not be included for the purposes of this calculation.

When calculating the total rated thermal input of installations referred to in point 1.1, combustion plants with a rated thermal input below 50 MW and operating no more than **500 hours** per year shall not be included for the purposes of this calculation.

1. Energy industries

- 1.1 Combustion of fuels in installations with a total rated thermal input of 20 MW or more
- 1.2 Refining of mineral oil and gas
- 1.3 Production of coke
- 1.4 Gasification or liquefaction of fuels

2. Production and processing of metals

- 2.1 Metal ore (including sulphide ore) roasting or sintering
- 2.2 Production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2,5 tonnes per hour
- 2.3 Processing of ferrous metals:
 - (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 Operation of ferrous metal foundries with a production capacity exceeding 20 tonnes of good castings per day
- 2.5 Processing of non-ferrous metals:

- (a) production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes;
 - (b) melting including the alloyage, of non-ferrous metals, including recovered products, with a melting capacity exceeding 4 tonnes per day for lead and cadmium or 20 tonnes per day for all other metals and excluding operation of foundries;
 - (c) operation of non-ferrous metal foundries producing cast metal products, with **melting** capacity exceeding 2,4 tonnes per day for lead and cadmium or 12 tonnes per day for all other metals.
- 2.6. Surface treatment of metals or plastic materials using an electrolytic or chemical process where the volume of the treatment vat exceeds 30 m³
3. Mineral industry
- 3.1. Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or lime in rotary kilns or other furnaces with a production capacity exceeding 50 tonnes per day
 - 3.2. Production of asbestos or the manufacture of asbestos-based products
 - 3.3. Manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day
 - 3.4. Melting mineral substances including the production of mineral fibres with a melting capacity exceeding 20 tonnes per day
 - 3.5. Manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day **and** with a setting density per kiln exceeding 300 kg/m³
4. Chemical industry

For the purpose of this section, production within the meaning of the categories of activities contained in this section means the production on an industrial scale by chemical or biological processing of substances or groups of substances listed in points 4.1 to 4.7

- 4.1. Production of 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, peroxides, 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) basic plastic materials (polymers synthetic fibres and cellulose-based fibres);
- (i) synthetic rubbers;
- (j) dyes and pigments;
- (k) surface-active agents and surfactants.

4.2. Production of 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. Production of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)

4.4. Production of plant health products or of biocides

4.5. Production of pharmaceutical products including intermediates

4.6. Production of explosives

4.7. Production of chemicals for use as fuels or lubricants

5. Waste management

5.1. Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving the following activities:

- (a) biological treatment;
- (b) physico-chemical treatment;
- (c) incineration or co-incineration;
- (d) blending or mixing;
- (e) repackaging;
- (f) storage with a capacity exceeding 10 tonnes of storage;

- (g) use principally as a fuel or other means to generate energy;
 - (h) solvent reclamation/regeneration;
 - (i) recycling/reclamation of inorganic materials other than metals or metal compounds;
 - (j) regeneration of acids or bases;
 - (k) recovery of components used for pollution abatement;
 - (l) recovery of components from catalysts;
 - (m) oil re-refining or other reuses of oil.
- 5.2. Incineration **and co-incineration** of non-hazardous waste with a capacity exceeding 3 tonnes per hour.
- 5.3. Disposal or recovery of non-hazardous waste with a capacity exceeding 50 tonnes per day involving the following activities:
- (a) biological treatment;
 - (b) physico-chemical treatment, *with the exclusion of activities covered by Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment¹ and which result only in treated sludge, as defined in Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture². This exclusion applies only in cases where at least the same level of environmental protection would be achieved as under this Directive;*
 - (c) pre-treatment of waste for co-incineration;
 - (d) treatment of slags and ashes **not covered by other categories of industrial activities**;
 - (e) treatment of scrap metal **in shredders**.
- 5.4 Landfills receiving more than 10 tonnes per day or with a total capacity exceeding 25 000 tonnes, excluding landfills of inert waste
6. Other activities
- 6.1. Production in industrial -installations of:
- (a) pulp from timber or other fibrous materials;
 - (b) paper or card board with a production capacity exceeding 20 tonnes per day;
 - (c) wood-based panels, with the exception of plywood, with a production capacity exceeding 600 m³ per day.
- 6.2. Pre-treatment (operations such as washing, bleaching, *mercerisation*) or dyeing of

¹ ***OJ L 135, 30.5.1991, p. 40.***

² ***OJ L 181, 4.7.1986, p. 6.***

textile fibres or textiles where the treatment capacity exceeds 10 tonnes per day

6.3. Tanning of hides and skins where the treatment capacity exceeds 12 tonnes of finished products per day

6.4. (a) Operating slaughterhouses with a carcass production capacity greater than 50 tonnes per day

(b) Treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food products for humans or animals from :

(i) animal raw materials (other than exclusively milk) with a finished product production capacity greater than 75 tonnes per day

(ii) vegetable raw materials with a finished product production capacity greater than 300 tonnes per day

(iii) a mix of animal and vegetable raw materials with a finished product production capacity in tonnes per day greater than:

– 75 if A is equal to 10 or more; or

– $[300 - (22.5 \times A)]$ in any other case

where 'A' is the portion of animal material (in percent) of the 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. Disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes per day

6.6 Intensive rearing of poultry or pigs with more than:

(a) 40000 places for *poultry*

(b) 2 000 places for production pigs (over 30 kg), or

(c) 750 places for sows

In cases of other poultry species than referred in point (a) or different types of species referred in points (a), (b) and (c) reared on the same installation, the threshold shall be calculated on the basis of equivalent nitrogen excretion factors compared to the thresholds set above. ***The Commission shall establish guidance on the calculation of the thresholds and the determination of equivalent nitrogen excretion factors.***

6.7 Surface 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 Production of carbon (hard-burnt coal) or electrographite by means of incineration or *graphitisation*.
- 6.9 Preservation of wood and wood products with a production capacity exceeding **50 m³** per day.
- 6.10 Off-site treatment of waste water not covered by || Directive 91/271/EEC || and discharged by an installation covered by Chapter I.

ANNEX II

List of polluting substances

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.).
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.

¹ OJ L 327, 22.12.2000, p. 1.

ANNEX III

Criteria for determining best available techniques

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 *minimise* the consequences for the environment;

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, including the description of the elements listed in Article 13(1);
 - (b) the development of new or updated general binding rules in accordance with Article 18, including the proposed requirements of the rules and a non-technical summary of the legal and administrative framework within which the rules will be applied;
 - (c) 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 28;
 - (d) 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;
 - (e) the nature of possible decisions or, where there is one, the draft decision;
 - (f) where applicable, the details relating to a proposal for the updating of a permit or of permit conditions;
 - (g) an indication of the times and places where, or means by which, the relevant information will be made available;
 - (h) 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, information other than that referred to in point 1 which is relevant for the decision in accordance with Article 6 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.

ANNEX V

Technical provisions relating to combustion plants

Part 1

Emission limit values for combustion plants referred to in *Article 32(2)*

1. All emission limit values shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correction for the water vapour content of the waste gases and at a *standardised* O₂ content of 6 % for solid fuels, 3 % for boilers using liquid and gaseous fuels and 15 % for gas turbines and gas engines.

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

2. Emission limit values (mg/Nm³) for SO₂ for boilers using solid or liquid fuels

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

Combustion plants ***with a rated thermal input of less than 500 MW*** using ***liquid*** fuels which were granted a permit before 27 November 2002, and which do not operate more than 1500 hours per year (rolling average over a period of five years), shall be subject to an emission limit value for SO₂ of 800 mg/Nm³.

3. Emission limit values (mg/Nm³) for SO₂ for boilers using gaseous fuels

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

4. Emission limit values (mg/Nm³) for NO_x for boilers using solid or liquid fuels

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

|| Combustion plants using solid **or liquid** fuels **and** with a rated thermal input not exceeding 500 MW which were granted a permit before 27 November 2002 and which do not operate more than 1500 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.

Combustion plants using solid **or liquid** fuels **and** with a rated thermal input of 500 MW or more, which were granted a permit before 1 July 1987 and which do not operate more than 1500 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.

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

	NO _x	CO
Gas fired boilers	100 ⁽⁵⁾	100
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
Gas engines	100	100

Notes:

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

(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 categories mentioned under note (2), but having an efficiency greater than 35 % - determined at ISO base load conditions - the emission limit value for NO_x shall be $50 \times \eta / 35$ where η is the gas turbine efficiency at ISO base load conditions expressed as a percentage.

(4) These emission limit values also apply to gas turbines using light and middle distillates as liquid fuels.

For gas turbines (including CCGT), the NO_x and CO emission limit values set out in the table contained in this point apply only above 70 % load.

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

(5) For plants, as referred to in Article 4(1) and 4(3) of Directive 2001/80/EC, for the use of blast furnace gas and / or coke oven gas, for nitrogen dioxide and nitrogen monoxide, measured as nitrogen dioxide, an emission limit value of 135 mg/Nm³ shall apply.

6. Emission limit values (mg/Nm³) for dust for boilers using solid or liquid fuels

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

7. Emission limit values (mg/Nm³) for dust for boilers using gaseous fuels

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

Part 2

Emission limit values for combustion plants referred to in *Article 32(3)*

1. All emission limit values shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correction for the water vapour content of the waste gases and at a *standardised* O₂ content of 6 % for solid fuels, 3 % for boilers using liquid and gaseous fuels and 15% for gas turbines and gas engines.

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

2. Emission limit values (mg/Nm³) for SO₂ for boilers using solid or liquid fuels

Rated thermal input (MWth)	Coal and lignite	Biomass	Peat	Liquid fuels
50-100	400	200	300	350
100-300	200	200	300 250 in case of <i>fluidised</i> bed combustion	200
> 300	150 200 in case of circulating or <i>pressurised fluidised</i> bed combustion	150	150 200 in case of <i>fluidised</i> bed combustion	150

3. Emission limit values (mg/Nm³) for SO₂ for boilers using gaseous fuels

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

furnace	
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4. Emission limit values (mg/Nm³) for NO_x for boilers using solid or liquid fuels

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

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

	NO _x	CO
Gas fired boilers	100	100
Gas turbines (including CCGT) ⁽¹⁾	50 ⁽²⁾	100
Gas engines	75	100

Notes

(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.

(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 50xη/35 where η is the gas turbine efficiency at ISO base load conditions expressed as a percentage.

For gas turbines (including CCGT), the NO_x and CO emission limit values set out in this point apply only above 70 % load.

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

6. Emission limit values (mg/Nm³) for dust for boilers using solid or liquid fuels

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

7. Emission limit values (mg/Nm³) for dust for boilers using gaseous fuels

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

Emission monitoring

1. The concentrations of SO₂, NO_x, **CO** and dust in waste gases from each combustion plant with a rated thermal input of 100 MW or more shall be measured continuously.

■

2. The competent authority may decide not to require the continuous measurements referred to in point 1 in the following cases:

- (a) for combustion plants with a life span of less than 10 000 operational hours;
- (b) for SO₂ and dust from combustion plants firing natural gas;
- (c) for SO₂ from combustion plants firing oil with known sulphur content in cases where there is no waste gas desulphurisation equipment;
- (d) for SO₂ from combustion plants firing biomass if the operator can prove that the SO₂ emissions can under no circumstances be higher than the prescribed emission limit values.

3. Where continuous measurements are not required, measurements of SO₂, NO_x, dust and, for gas fired plants, also for CO shall be required at least once per six months.

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

5. As an alternative to the measurements of SO₂ and NO_x referred to in point 3, other procedures, verified and approved by the competent authority, may be used to determine the SO₂ and NO_x emissions. Such procedures shall use relevant 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.

6. The competent authority shall be informed of significant changes in the type of fuel used or in the mode of operation of the plant. The competent authority shall decide whether the monitoring requirements laid down in points 1 to 4 are still adequate or require adaptation.

7. The continuous measurements carried out in accordance with point 1 shall include the measurement of the oxygen content, temperature, pressure and water vapour content of the waste gases. The continuous measurement of the water vapour content of the waste gases shall not be necessary, provided that the sampled waste gas is dried before the emissions are analysed.

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

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

The operator shall inform the competent authority about the results of the checking of the

automated measuring systems.

9. At the emission limit value level, the values of the 95 % confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

Carbon monoxide	10 %
Sulphur dioxide	20 %
Nitrogen oxides	20 %
Dust	30 %

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

Any day in which more than three hourly average values are invalid due to malfunction or maintenance of the automated measuring system shall be invalidated. If more than 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 automated measuring system.

Part 4

Assessment of compliance with the emission limit values

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 **daily** average value exceeds the relevant emission limit values set out in Parts 1 and 2;

■

(b) 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.

■

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.

ANNEX VI

Technical provisions relating to waste incineration plants and waste co-incineration plants

Part 1

Definitions

For the purpose of this Annex the following definitions shall apply:

- (a) 'existing waste incineration plant' means one of the following waste incineration plants:
- (i) which was in operation and had a permit in accordance with applicable Community legislation before 28 December 2002,
 - (ii) which was authorised or registered for waste incineration and had a permit issued before 28 December 2002 in accordance with applicable Community legislation, provided that the plant was put into operation not later than 28 December 2003,
 - (iii) which, in the view of the competent authority, was the subject of a full request for authorisation, before 28 December 2002, provided that the plant was put into operation not later than 28 December 2004;
- (b) 'new waste incineration plant' means any waste incineration plant not covered by point (a).

Part 2

Equivalence factors for dibenzo-p-dioxins and dibenzofurans

For the determination of the total concentration 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 — Hexachlorodibenzofuran (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

Air emission limit values for waste incineration plants

1. 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 the waste gases.

They are standardised at 11 % oxygen in waste gas except in case of incineration of mineral waste oil as defined in Article 3(3) of Directive 2008/98/EC, when they are standardised at 3 % oxygen, and in the cases referred to in Point 2.7 of *Part 6*.

1.1 Daily average emission limit values for the following polluting substances (mg/Nm³)

Total dust	10
Gaseous and vaporous organic substances, expressed as total organic carbon (TOC)	10
Hydrogen chloride (HCl)	10
Hydrogen fluoride (HF)	1
Sulphur dioxide (SO ₂)	50
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as NO ₂ for existing waste incineration plants with a nominal capacity exceeding 6 tonnes per hour or new waste incineration plants	200
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as NO ₂ for existing waste incineration plants with a nominal capacity of 6 tonnes per hour or less	400

1.2 Half-hourly average emission limit values for the following polluting substances (mg/Nm³)

	(100 %) A	(97 %) B
Total dust	30	10
Gaseous and vaporous organic substances, expressed as total organic carbon (TOC)	20	10
Hydrogen chloride (HCl)	60	10
Hydrogen fluoride (HF)	4	2
Sulphur dioxide (SO ₂)	200	50
Nitrogen monoxide (NO) and nitrogen dioxide (NO ₂), expressed as NO ₂ for existing waste incineration plants with a nominal capacity exceeding 6 tonnes per hour or new waste incineration plants	400	200

1.3 Average emission limit values (mg/Nm³) for the following heavy metals over a sampling period of a minimum of 30 minutes and a maximum of 8 hours

Cadmium and its compounds, expressed as cadmium (Cd)	Total: 0,05	
Thallium and its compounds, expressed as thallium (Tl)		
Mercury and its compounds, expressed as mercury (Hg)	0,05	
Antimony and its compounds, expressed as antimony (Sb)	Total: 0,5	
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)		

These average values cover also the gaseous and the vapour forms of the relevant heavy metal emissions as well as their compounds.

1.4 Average emission limit value (ng/Nm³) for dioxins and furans over a sampling 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 in accordance with Part 2.

Dioxins and furans	0,1
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1.5 Emission limit values (mg/Nm³) for carbon monoxide (CO) in the waste gases:

- (a) 50 as daily average value;
- (b) 100 as half-hourly average value.
- (c) 150 as 10-minute average value.

The competent authority may authorise exemptions from the emission limit values set out in this point for waste incineration plants using fluidised bed technology, provided that the permit sets an emission limit value for carbon monoxide (CO) of not more than 100 mg/Nm³ as an hourly average value.

2. Emission limit values applicable in the circumstances described in *Articles 40 (5) and 41*.

The total dust concentration in the emissions into the air of a waste incineration plant shall under no circumstances exceed 150 mg/Nm³ expressed as a half-hourly average. The air emission limit values for TOC and CO set out in points 1.2 and 1.5(b) shall not be exceeded.

3. Member States may lay down rules governing the exemptions provided for in this Annex.

Part 4

Determination of air emission limit values for the co-incineration of waste

1. The following formula (mixing rule) shall be applied whenever a specific total emission limit value «C» has not been set out in a table in this Part.

The emission limit value for each relevant polluting substance and CO in the waste 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}	:	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 for waste incineration plants set out in Part 3
V_{proc}	:	waste 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 set out in Community or national legislation . In the absence of legislation for this kind of plant, the real oxygen content in the waste gas without being thinned by addition of air unnecessary for the process must be used.
C_{proc}	:	emission limit values as set out in this Part for certain industrial activities or in case of the absence of such values, emission limit values 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 set out in the permit are used. In the absence of such permit values the real mass concentrations are used.
C	:	<p>total emission limit values at an oxygen content as set out in this Part for certain industrial activities and certain polluting substances or, in case of the absence of such values, total emission limit values replacing the emission limit values as set out 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.</p> <p>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 the waste gases.</p>

Member States may lay down rules governing the exemptions provided for in this Part.

2. Special provisions for cement kilns co-incinerating waste

2.1 The emission limit values set out in points 2.2 and 2.3 apply as daily average values for total dust, HCl, 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.

All values are standardised at 10 % oxygen.

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

2.2 C - total emission limit values (mg/Nm³ except for dioxins and furans) for the following polluting substances

Polluting substance	C
Total dust	30
HCl	10
HF	1
NO _x	500
Cd + Tl	0,05

Hg	0,05
Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V	0,5
Dioxins and furans (ng/Nm ³)	0,1

2.3 C - total emission limit values (mg/Nm³) for SO₂ and TOC

Pollutant	C
SO ₂	50
TOC	10

The competent authority may grant derogations for emission limit values set out in this point in cases where TOC and SO₂ do not result from the incineration of waste.

3. Special provisions for combustion plants co-incinerating waste

3.1. C_{proc} expressed as daily average values (mg/Nm³) valid until 31 December 2015

For determining the rated thermal input of the combustion plants, the aggregation rules as defined in *Article 31* shall apply.

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

C_{proc} for solid fuels with the exception of biomass (O₂ content 6 %):

Polluting substances	< 50 MWth	50-100 MWth	100 to 300 MWth	> 300 MWth
SO ₂	-	850	200	200
NO _x	-	400	200	200
Dust	50	50	30	30

C_{proc} for biomass (O₂ content 6 %):

Polluting substances	<50 MWth	50 to 100 MWth	100 to 300 MWth	>300 MWth
SO ₂	-	200	200	200
NO _x	-	350	300	200
Dust	50	50	30	30

C_{proc} for liquid fuels (O₂ content 3 %):

Polluting substances	<50 MWth	50 to 100 MWth	100 to 300 MWth	>300 MWth
SO ₂	-	850	400 to 200 (linear decrease from 100 to 300 MWth)	200
NO _x	-	400	200	200
Dust	50	50	30	30

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 31* 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 32(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 pulverised 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
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SO ₂	-	350	250	200
NO _x	-	400	200	150
Dust	50	30	25	20

3.2.2 C_{proc} for combustion plants referred to in Article 32(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 for peat: 300	200 for peat: 300, except in the case of <i>fluidised</i> bed combustion: 250	150 for circulating or <i>pressurised fluidised</i> bed combustion or, in case of peat firing, for all <i>fluidised</i> bed combustion: 200
NO _x	-	300 for peat: 250	200	150 for <i>pulverised</i> 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 <i>fluidised</i> 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	-	350	200	150
NO _x	-	300	150	100
Dust	50	30	25	20

3.3. C — total emission limit values for heavy metals (mg/Nm³) expressed as average values over the sampling period of a minimum of 30 minutes and a maximum of 8 hours (O₂ content 6 % for solid fuels and 3 % for liquid fuels) .

Polluting substances	C
Cd + Tl	0,05
Hg	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 expressed as average value measured over the sampling period of a minimum of 6 hours and a maximum of 8 hours (O₂ content 6 % for solid fuels and 3 % for liquid fuels).

Polluting substance	C
Dioxins and furans	0,1

4. Special provisions for co-incineration plants in industrial sectors not covered under Points 2 and 3 of this Part

4.1. C — total emission limit value (ng/Nm³) for dioxins and furans expressed as average value measured over the sampling period of a minimum of 6 hours and a maximum of 8 hours:

Polluting substance	C
Dioxins and furans	0,1

4.2 C – total emission limit values (mg/Nm³) for heavy metals expressed as average values over the sampling period of a minimum of 30 minutes and a maximum of 8 hours:

Polluting substances	C
Cd + Tl	0,05
Hg	0,05

Part 5

Emission limit values for discharges of waste water from the cleaning of waste gases

Polluting substances	Emission limit values for unfiltered samples (mg/l except for dioxins and furans)	
1. Total suspended solids as defined in Annex I of Directive 91/271/EEC	(95 %)	(100 %)
	30	45

2. Mercury and its compounds, expressed as mercury (Hg)	0,03
3. Cadmium and its compounds, expressed as cadmium (Cd)	0,05
4. Thallium and its compounds, expressed as thallium (Tl)	0,05
5. Arsenic and its compounds, expressed as arsenic (As)	0,15
6. Lead and its compounds, expressed as lead (Pb)	0,2
7. Chromium and its compounds, expressed as chromium (Cr)	0,5
8. Copper and its compounds, expressed as copper (Cu)	0,5
9. Nickel and its compounds, expressed as nickel (Ni)	0,5
10. Zinc and its compounds, expressed as zinc (Zn)	1,5
11. Dioxins and furans	0,3 ng/l

Part 6

Monitoring of emissions

1. Measurement techniques

1.1 Measurements for the determination of concentrations of air and water polluting substances shall be carried out representatively.

1.2 Sampling and analysis of all polluting substances including dioxins and furans as well as the quality assurance of automated measuring systems and the reference measurement methods to calibrate them shall be carried out according to 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. Automated measuring systems shall be subject to control by means of parallel measurements with the reference methods at least once per year.

1.3 At the daily emission limit value level, the values of the 95 % confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

Carbon monoxide:	10 %
Sulphur dioxide:	20 %
Nitrogen dioxide:	20 %

Total dust:	30 %
Total organic carbon:	30 %
Hydrogen chloride:	40 %
Hydrogen fluoride:	40 %.

Periodic measurements of the emissions into the air and water shall be carried out in accordance with points 1.1 and 1.2.

2. Measurements relating to air polluting substances

2.1 The following measurements relating to air polluting substances shall be carried out:

- (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 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.

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

2.3. 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 that case the emissions of HF shall be subject to periodic measurements as laid down in point 2.1(c).

2.4. The continuous measurement of the water vapour content shall not be required if the sampled waste gas is dried before the emissions are analysed.

2.5. The competent authority may decide not to require continuous measurements for HCl, HF and SO₂ in waste incineration plants or waste co-incineration plants and require periodic measurements as set out in point 2.1(c) ■ if the operator can prove that the emissions of those pollutants can under no circumstances be higher than the prescribed emission limit values.

This derogation shall not be applied in cases of burning mixed waste from different sources.

■

2.6. The competent authority may decide to require ***only one measurement*** per year ■ for heavy metals and for dioxins and furans in the following cases:

- (a) the emissions resulting from co-incineration or incineration of waste are under all circumstances below 50 % of the emission limit values;

- (b) 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 (c);
- (c) the operator can prove on the basis of information on the quality of the waste concerned and the monitoring of the emissions that the emissions are under all circumstances significantly below the emission limit values for heavy metals, dioxins and furans;
- (d) ***the operator can prove that neither electric nor electronic waste, nor waste containing chlorinated compounds is being treated.***

2.7. The results of the measurements 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.

When 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.

When the emissions of polluting substances are reduced by waste gas treatment in a waste incineration plant or waste 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 polluting substance concerned exceeds the relevant standard oxygen content.

3. Measurements relating to water polluting substances

3.1. The following measurements shall be carried out at the point of waste water discharge:

- (a) continuous measurements of pH, temperature and flow;
- (b) spot sample daily measurements of total suspended solids or measurements of a flow proportional representative sample over a period of 24 hours;
- (c) at least monthly measurements of a flow proportional representative sample of the discharge over a period of 24 hours of Hg, Cd, Tl, As, Pb, Cr, Ni and Zn;
- (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.

3.2. Where the waste water from the cleaning of waste gases is treated on site collectively with other on-site sources of waste water, the operator shall take the measurements:

- (a) on the waste water stream from the 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.

Formula to calculate the emission concentration at the standard percentage oxygen concentration

$$E_s = \frac{21 - O_s}{21 - O_M} \times E_M$$

E_s	=	calculated emission concentration at the standard percentage oxygen concentration
E_M	=	measured emission concentration
O_s	=	standard oxygen concentration
O_M	=	measured oxygen concentration

Part 8

Assessment of compliance with emission limit values

1. Air emission limit values

1.1. 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 point 1.1 of Part 3 or in Part 4 or calculated in accordance with Part 4;
- (b) either none of the half-hourly average values exceeds any of the emission limit values set out in, 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, column B of the table under point 1.2 of Part 3;
- (c) none of the average values over the sampling period set out for heavy metals and dioxins and furans exceeds the emission limit values set out in points 1.3 and 1.4 of Part 3 or in Part 4 or calculated in accordance with Part 4;

(d) for carbon monoxide (CO):

(i) in case of waste incineration plants:

- 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;

and

- 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

(ii) in case of waste co-incineration plants: the provisions of Part 4 are met.

1.2. The half-hourly average values and the 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-down periods if no waste is being incinerated) from the measured values after having subtracted the value of the confidence interval specified in point 1.3 of Part 6. 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.

1.3. The average values over the sampling 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 39(1)(e) and 42(3)* and point 1 of Part 6.

2. Water emission limit values.

The emission limit values for water shall be regarded as being complied with if:

- (a) for total suspended solids 95 % and 100 % of the measured values do not exceed the respective emission limit values as set out in Part 5;
- (b) for heavy metals (Hg, Cd, TI, As, Pb, Cr, Cu, Ni and Zn) no more than one measurement per year exceeds the emission limit values set out in Part 5; 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;
- (c) for dioxins and furans, the measurement results do not exceed the emission limit value set out in Part 5.

ANNEX VII

Part 1

Activities

1. In each of the following points, the 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:
 - (i) new cars, defined as vehicles of category M1 in *Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive)*¹ and of category N1 in so far as they are coated at the same installation as M1 vehicles ||;
 - (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 2007/46/EC;
 - (iii) vans and trucks, defined as vehicles of categories N1, N2 and N3 in Directive 2007/46/EC, but not including truck cabins;
 - (iv) buses, defined as vehicles of categories M2 and M3 in Directive 2007/46/EC;
 - (v) trailers, defined in categories O1, O2, O3 and O4 in Directive 2007/46/EC;
- (b) metallic and plastic surfaces including surfaces of airplanes, ships, trains, etc.;
- (c) wooden surfaces;
- (d) textile, fabric, film and paper surfaces;
- (e) leather.

Coating activities do not include the coating of substrate with metals by electrophoretic and chemical spraying techniques. If the coating 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 Chapter V of this Directive if the printing activity falls within the scope thereof.

¹ OJ L 263, 9.10.2007, p. 1.

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 volatile organic compounds 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 mixtures, 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.

8. 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 Chapter V:

- (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;
- (d) publication rotogravure - a rotogravure printing activity used for printing paper for magazines, brochures, catalogues or similar products, using toluene-based inks;
- (e) 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;

- (f) 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 either of the following:

- (a) the original coating of road vehicles as defined in Directive 2007/46/EC or part of them with refinishing-type materials, where this is carried out away from the original manufacturing line;
- (b) the coating of trailers (including semi-trailers) (category O in Directive 2007/46/EC).

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

Thresholds and emission limit values

The emission limit values in waste gases shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correction for the water vapour content of the waste gases.

	Activity (solvent consumption threshold in tonnes/year)	Threshold (solvent consumption threshold in tonnes/year)	Emission limit values in waste gases (mg C/Nm ³)	Fugitive emission limit values (percentage of solvent input)		Total emission limit v	
				New installations	Existing installatio ns	New installations	Exis insta n
1	Heatset web offset printing (> 15)	15—25 > 25	100 20	30 ⁽¹⁾ 30 ⁽¹⁾			
2	Publication rotogravure (> 25)		75	10	15		
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			
4	Surface cleaning using compounds specified in <i>Article 53(5)</i> . (> 1)	1—5 > 5	20 ⁽¹⁾ 20 ⁽¹⁾	15 10			
5	Other surface cleaning (> 2)	2—10 > 10	75 ⁽¹⁾ 75 ⁽¹⁾	20 ⁽¹⁾ 15 ⁽¹⁾			
6	Vehicle coating (< 15) and vehicle refinishing	> 0,5	50 ⁽¹⁾	25			

7	Coil coating (> 25)		50 ⁽¹⁾	5	10	
8	Other coating, including metal, plastic, textile ⁽⁵⁾ , fabric, film and paper coating (> 5)	5—15 > 15	100 ⁽¹⁾ ⁽⁴⁾ 50/75 ⁽²⁾ ⁽³⁾ ⁽⁴⁾	25 ⁽⁴⁾ 20 ⁽⁴⁾		
9	Winding wire coating (> 5)					10 g/kg ⁽¹⁾ 5 g/kg ⁽²⁾
10	Coating of wooden surfaces (> 15)	15—25 > 25	100 ⁽¹⁾ 50/75 ⁽²⁾	25 20		
11	Dry cleaning					20 g/kg ⁽¹⁾ ⁽²⁾
12	Wood impregnation (> 25)		100 ⁽¹⁾	45		11 kg/m ³

13	Coating of leather (> 10)	10—25 > 25 > 10 ⁽¹⁾			85 g/m ² 75 g/m ² 150 g/m ²
14	Footwear manufacture (> 5)				25 g per pair
15	Wood and plastic lamination (> 5)				30 g/m ²
16	Adhesive coating (> 5)	5—15 > 15	50 ⁽¹⁾ 50 ⁽¹⁾	25 20	
17	Manufacture of coating mixtures , varnishes, inks and adhesives (> 100)	100—1 000 > 1 000	150 150	5 3	5 % of solvent input 3 % of solvent input
18	Rubber conversion (> 15)		20 ⁽¹⁾	25 ⁽²⁾	25 % of solvent input
19	Vegetable oil and animal fat extraction and vegetable oil refining activities (> 10)				Animal 1,5 kg/tonne Castor: 3 kg/tonne Rape 1 kg/tonne Sunflower 1 kg/tonne Soya beans (normal crush): 0,8 kg/tonne Soya beans (white flake): 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 % solvent input

Part 3

Emission limit values for installations of the vehicle coating industry

1. The total emission limit values are expressed in terms of grams of organic solvent emitted in relation to the surface area of product in square metres and in kilograms of organic solvent emitted in relation to the car body.

2. The surface area of any product dealt with in the table under point 3 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:

$$\frac{2 \times \text{total weight of product shell}}{\text{average thickness of metal sheet} \times \text{density of metal sheet}}$$

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.

3. The total emission limit values in the table below refer 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.

Activity (solvent consumption threshold in tonnes/year)	Production threshold (refers to annual production of coated item)	Total emission limit value	
		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	90 g/m ² or 1,5 kg/body

		+ 70 g/m ²	+ 70 g/m ²
		Total emission limit value (g/m ²)	
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 under point 3 shall meet the requirements for the vehicle refinishing sector set out in Part 2.

Part 4

Emission limit values relating to volatile organic compounds with specific risk phrases

1. For emissions of the volatile organic compounds referred to in *Article 52* where the mass flow of the sum of the compounds causing the labelling referred to in that Article 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. For emissions of halogenated volatile organic compounds which are assigned the risk phrase R40 or R68, where the mass flow of the sum of the compounds causing the labelling R40 or R68 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.

Part 5

Reduction scheme

1. 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 scheme achieving equivalent emission reductions to those achieved if the emission limit values of Parts 2 and 3 were to be applied. The design of the scheme shall take into account the following facts:

- (a) where substitutes containing little or no solvent are still under development, a time extension shall be given to the operator to implement his emission reduction plans;
- (b) 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.

2. The following scheme shall operate for installations for which a constant solid content of

product can be assumed:

- (a) The annual reference emission is calculated as follows:
- (i) 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) 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)
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

- (b) The target emission is equal to the annual reference emission multiplied by a percentage equal to:
- (1) (the fugitive emission limit value + 15), for installations falling within item 6 and the lower threshold band of items 8 and 10 of Part 2,
 - (2) (the fugitive emission limit value + 5) for all other installations.
- (c) Compliance is achieved if the actual solvent emission determined from the solvent management plan is less than or equal to the target emission.

Part 6

Emission monitoring

1. 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, shall be monitored continuously for compliance.

2. 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 shall be obtained during each measurement exercise.

3. Measurements are not required in the case where end-of-pipe abatement equipment is not needed to comply with this Directive.

Part 7

Solvent management plan

1. Principles

The solvent management plan shall be used to:

- (a) verify compliance as specified in *Article 56*;
- (b) identify future reduction options;
- (c) enable provision of information on solvent consumption, solvent emissions and compliance with the requirements of Chapter V to the public.

2. Definitions

The following definitions provide a framework for the mass balance exercise.

Inputs of organic solvents (I):

- I1 The quantity of organic solvents or their quantity in mixtures purchased which are used as input into the process in the time frame over which the mass balance is being calculated.
- I2 The quantity of organic solvents or their quantity in mixtures 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, 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.
- O5 Organic solvents and/or organic compounds lost due to chemical or physical reactions (including those which are destroyed, by incineration or other waste gas or waste water treatments, or captured,, as long as they are not counted under O6, O7 or O8).
- O6 Organic solvents contained in collected waste.
- O7 Organic solvents, or organic solvents contained in mixtures, which are sold or are intended to be sold as a commercially valuable product.
- O8 Organic solvents contained in mixtures recovered for reuse but not as input into the

process, as long as not counted under O7.

O9 Organic solvents released in other ways.

3. Use of the solvent management plan for verification of compliance.

The use made of the solvent management plan shall be determined by the particular requirement which is to be verified, as follows:

(a) verification of compliance with the reduction scheme as set out in Part 5, with a total emission limit value expressed in solvent emissions per unit product, or otherwise stated in Parts 2 and 3.

(i) for all activities using the reduction scheme as set out in Part 5, the solvent management plan shall be done annually to determine the consumption (C). The consumption shall be calculated according to the following equation:

$$C = I1 - O8$$

A parallel exercise shall also be undertaken to determine solids used in coating in order to derive the annual reference emission and the target emission each year.

(ii) for assessing compliance with a total emission limit value expressed in solvent emissions per unit product or otherwise stated in Parts 2 and 3, the solvent management plan shall be done annually to determine the emissions (E). The emissions shall be calculated according to the following equation:

$$E = F + O1$$

Where F is the fugitive emission as defined in point (b)(i). The emission figure shall then be divided by the relevant product parameter.

(iii) for assessing compliance with the requirements of point (b)(ii) of paragraph 6 of *Article 53*, the solvent management plan shall be done annually to determine total emissions from all activities concerned, and that figure shall then be compared with the total emissions that would have resulted had the requirements of Parts 2, 3 and 5 been met for each activity separately.

(b) Determination of fugitive emissions for comparison with the fugitive emission limit values in Part 2:

(i) The fugitive emission shall be calculated according to one of the following equations;

$$F = I1 - O1 - O5 - O6 - O7 - O8$$

or

$$F = O2 + O3 + O4 + O9$$

F shall be determined either by direct measurement of the quantities or by an equivalent method or calculation, for instance by using the capture efficiency of the process.

The fugitive emission limit value is expressed as a proportion of the input,

which shall be calculated according to the following equation:

$$I = I_1 + I_2$$

- (ii) Determination of fugitive emissions shall be done by a short but comprehensive set of measurements and needs not be done again until the equipment is modified.

Part 8

Assessment of compliance with emission limit values in waste gases

1. In the case of continuous measurements the emission limit values shall be considered to be complied with if:
 - (a) none of the arithmetic 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 exceeds the emission limit values,
 - (b) none of the hourly averages exceeds the emission limit values by more than a factor of 1,5.
2. 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 does not exceed the emission limit values,
 - (b) none of the hourly averages exceeds the emission limit value by more than a factor of 1,5.
3. Compliance with the provisions of Part 4 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 Part 2.
4. 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

Technical provisions relating to installations producing titanium dioxide

Part 1

Emission limit values for emissions into water

1. In case of installations using the sulphate process (as a yearly average):
550 kg of sulphate per tonne of titanium dioxide produced;
2. In case of installations using the chloride process (as a yearly average):
 - (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) 330 kg chloride per tonne of titanium dioxide produced using slag.
3. For installations using the chloride process and using more than one type of ore, the emission limit values in point 2 shall apply in proportion to the quantity of the ores used.

Part 2

Acute toxicity tests

1. Tests for acute toxicity shall be carried out on certain species of molluscs, crustaceans, fish and plankton, commonly found in the discharge areas. In addition, tests shall be done on samples of the brine shrimp species (*Artemia salina*).
2. Maximum mortality revealed by the tests in point 1, over a period of 36 hours and at an effluent dilution of 1/5 000:
 - (a) for adult forms of the species tested: 20% mortality,
 - (b) for larval forms of the species tested: mortality exceeding that of a control group.

Part 3

Emission limit values to air

1. The emission limit values which are expressed as concentrations in mass per cubic meter (Nm^3) shall be calculated at a temperature of 273,15 K, a pressure of 101,3 kPa and after correction for the water vapour content of the waste gases.
2. For dust: 50 mg/Nm^3 as an hourly average;
3. For gaseous sulphur dioxide and trioxide, including acid droplets calculated as SO_2 equivalent
 - (a) 6 kg per tonne of titanium dioxide produced as a yearly average;

(b) 500 mg/Nm³ as an hourly average for plants for the concentration of waste acid;

4. For chlorine in the case of installations using the chloride process:

(a) 5 mg/Nm³ as a daily average

(b) 40 mg/Nm³ at any time.

Part 4

Monitoring of the environment affected by discharges of waste from installations producing titanium dioxide into water

1. The water column shall be monitored at least three times per year, either through monitoring non-filtered or filtered water, by determining the following parameters:

(a) in case of monitoring non-filtered water: temperature, salinity or conductivity at 20°C, pH, dissolved O₂, turbidity or suspended matter, Fe dissolved and in suspension, Ti;

(b) in case of monitoring filtered water:

(i) in the water filtered through a 0,45 µm pore size membrane filter: dissolved Fe;

(ii) in the suspended solids remaining in the 0,45 µm pore size membrane filter: Fe, hydrated oxides and hydroxides of iron.

2. Sediments shall be monitored at least once per year by taking samples in the top layer of the sediment as near to the surface as possible and by determining the following parameters in these samples: Ti, Fe, hydrated oxides and hydroxides of iron.

3. Living organisms shall be monitored at least once per year by determining the concentration of the following substances in species representative of the site: Ti, Cr, Fe, Ni, Zn, Pb, and by determining the diversity and relative abundance of the benthic fauna, and the presence of morbid and anatomical lesions in fish.

4. In the course of successive sampling operations, the samples shall be taken at the same location and depth and under the same conditions.

Part 5

Emission monitoring

The monitoring of emissions to air shall include at least continuous monitoring of:

(a) SO₂ from plants for the concentration of waste acid in installations using the sulphate process

- (b) chlorine from installations using the chloride process
- (c) dust from major sources.

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)	only Annex I point (b)
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)	only Annex III, point 34
Council Directive 92/112/EEC (OJ L 409, 31.12.1992, p. 11).	
Council Directive 96/61/EC (OJ L 257, 10.10.1996, p. 26)	
Directive 2003/35/EC of the European Parliament and of the Council (OJ L 156, 25.6.2003, p. 17)	only Article 4 and Annex II
Directive 2003/87/EC of the European Parliament and of the Council (OJ L 275, 25.10.2003, p. 32)	only Article 26
Regulation (EC) N° 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1)	only Annex III, point 61
Regulation (EC) N° 166/2006 of the European Parliament and of the Council (OJ L 33, 4.2.2006, p. 1)	only Article 21(2)
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)	only Annex I, point 17
Directive 2004/42/CE of the European Parliament and of the Council (OJ L 143, 30.4.2004, p. 87)	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/EEC	25 February 1979	
82/883/EEC	31 December 1984	
92/112/EEC	15 June 1993	
96/61/EC	30 October 1999	
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 96/61/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(25)
Article 1(2), points (c), (d) and (e)							---
Article 2							<i>Article 61</i>
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)							<i>Article 64(1) and 64(2), first subparagraph</i>
Article 7(2) and (3)							---
---	---	---	---	---	---	---	<i>Article 64(2), second subparagraph</i>
Article 8(1)							<i>Article 62(2)</i>
Article 8(2)							Article 28(1), second subparagraph
Article 9							---
Article 10							---
Article 11							Article 13
Article 12							---
Article 13(1)							<i>Article 66</i>
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						<i>Article 64(3)</i>
	Article 4(2), second subparagraph						Annex VIII, Part 4
	Article 4(3) and (4)						
---	---	---	---	---	---	---	<i>Article 64(4)</i>
	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),					<i>Article 61(2)</i>

		second indent					
		Article 2(1)(a), third indent and 2(1)(b), third indent					<i>Article 61(4)</i>
		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					<i>Article 61(3)</i>
		Article 2(1)(c)					---
		Article 2(2)					---
		Article 3					<i>Article 61</i>
		Article 4					<i>Article 61</i>
		Article 5					---
		Article 6, first paragraph, introductory wording					<i>Article 62(1)</i>
		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					<i>Article 63(2)</i>
		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 63(1)
		Article 9(1)(a)(iv)					Annex VIII, Part 3, point (3)(b)
		Article 9(1)(a)(v)					---
		Article 9(1) b)					Annex VIII, Part 3, point (4)
		Article 9(2) and (3)					---
		Article 10					Article 64
		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 65
			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(11)

			Article 2(13)				Article 3(12)
			Article 2(14)				Article 3(13)
---	---	---	---	---	---	---	Article 3(14), (15), (16), (17) and (18)
			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				Article 13(1) c)

			indent				
			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				Article 8, point (2)

			indent				and Article 15(1), point (c)
			Article 14, third indent				Article 25(1), third subparagraph
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			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)
			Article 15(1), third indent				Article 26(1), first subparagraph, point (c)
---	---	---	---	---	---	---	Article 26(1)(d)
			Article 15(1), second subparagraph				Article 26(1), second subparagraph
---	---	---	---	---	---	---	---
			Article 15(2)				Article 26(2)(h)
			Article 15(4)				Article 26(3)
			Article 15(5)				Article 26(2), introductory wording and points (a) and (b)
---	---	---	---	---	---	---	Article 26(2), points (c) to (g)
			Article 15a, first paragraph				Article 27(1)
			Article 15a, second paragraph				Article 27(2)
			Article 15a, third paragraph				Article 27(3)
			Article 15a, fourth and fifth paragraph				Article 27(4)
			Article 15a, sixth paragraph				Article 27(5)
			Article 16(1)	Article 11(1), first sentence and 11(2)			Article 66(1), first subparagraph
---	---	---	---	---	---	---	Article 66(1), second subparagraph
			Article 16(2), first sentence				Article 29, introductory wording

			Article 16(2), second sentence				---
			Article 16(3), first sentence	Article 11(1), second sentence			Article 66(2)
			Article 16(3), second sentence				---
			Article 16(3), third sentence	Article 11(3)			Article 66(3)
			Article 16(4)				---
---	---	---	---	---	---	---	Article 67
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	Article 29
			Article 17			Article 11	Article 28
			Article 18(1)				---
			Article 18(2)				Article 16(3), second subparagraph
			Article 19(2) and (3)				---
			Article 20(1) and (2)				---
			Article 20(3)		Article 18	Article 17	Article 72
			Article 22	Article 16	Article 22	Article 19	Article 74
---	---	---	---	---	---	---	Article 2(1)
			Annex I, first paragraph of introductory wording				Article 2(2)
			Annex I, second paragraph of introductory wording				Annex I, first subparagraph of introductory wording
---	---	---	---	---	---	---	Annex I, second and third subparagraph of introductory wording
			Annex I, point 1				Annex I, point 1
			Annex I, points 2.1 – 2.5(b)				Annex I, points 2.1 – 2.5(b)
---	---	---	---	---	---	---	Annex I, point 2.5(c)
			Annex I, point 2.6				Annex I, point 2.6
			Annex I, point 3				Annex I, point 3
			Annex I, points 4.1 – 4.6				Annex I, points 4.1 – 4.6
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			Annex I, point 5, introductory wording				---
			Annex I, points 5.1 – 5.3(b)				Annex I, points 5.1 – 5.3(b)
---	---	---	---	---	---	---	Annex I, points 5.3 (c) to (e)
			Annex I, point 5.4				Annex I, point 5.4
			Annex I, points 6.1(a) and (b)				Annex I, points 6.1(a) and (b)
---	---	---	---	---	---	---	Annex I, point 6.1 (c)
			Annex I, points 6.2 – 6.4(b)				Annex I, points 6.2 – 6.4(b)(ii)
---	---	---	---	---	---	---	Annex I, point 6.4 (b)(iii)
			Annex I, points 6.4(c) – 6.6(c)				Annex I, points 6.4(c) – 6.6(c)
---	---	---	---	---	---	---	Annex I, point 6.6(c), final sentence
			Annex I, points 6.7 - 6.8				Annex I, points 6.7 - 6.8
---	---	---	---	---	---	---	Annex I, points 6.9 and 6.10
			Annex II				---
			Annex III				Annex II
---	---	---	---	---	---	---	Annex II, point 13
			Annex IV, introductory wording				Article 3(9)
			Annex IV, points 1 to 11				Annex III
			Annex IV, point 12				---
			Annex V 1(a)				Annex IV 1(a)
---	---	---	---	---	---	---	Annex IV, point 1(b)
			Annex V 1(b)-(g)				Annex IV, 1(c)-(h)
			Annex V, points 2 to 5				Annex IV, points 2 to 5
				Article 2(2)			Article 51(1)
				Article 2(3)			---
				Article 2(4)			Article 57(1)
				Article 2(8)			Article 4(1), third

							subparagraph
				Article 2(10)			<i>Article 51(3)</i>
				Article 2(11)			<i>Article 51(2)</i>
				Article 2(12)			<i>Article 51(4)</i>
				Article 2(15)			<i>Article 51(5)</i>
				Article 2(16)			<i>Article 3(33)</i>
				Article 2(17)			<i>Article 3(34)</i>
				Article 2(18)			<i>Article 3(35)</i>
				Article 2(19)			---
				Article 2(20)			<i>Article 3(36)</i>
				Article 2(21)			<i>Article 51(6)</i>
				Article 2(22)			<i>Article 51(7)</i>
				Article 2(23)			<i>Article 51(8)</i>
				Article 2(24)			<i>Article 51(9)</i>
				Article 2(25)			<i>Article 51(10)</i>
				Article 2(26)			<i>Article 51(11)</i>
				Article 2(27)			---
				Article 2(28)			<i>Article 57(1)</i>
				Article 2(29)			---
				Article 2(30)			<i>Article 51(12)</i>
				Article 2(31)			Annex VII, Part 2, first sentence Annex VIII, Part 3, point 1
				Article 2(32)			---
				Article 2(33)			<i>Article 51(13)</i>
				Article 3(2)			Article 4(1), second subparagraph
				Article 4(1) to (3)			Article 4(1), first and second subparagraph
				Article 4(4)			<i>Article 57(2)</i>
				Article 5(1)			<i>Article 53(1)</i> , first subparagraph
				Article 5(2)			<i>Article 53(1)(a)</i> and (b)
				Article 5(3)(a)			<i>Article 53(2)</i>
				Article 5(3)(b)			<i>Article 53(3)</i>
				Article 5(3), third subparagraph			<i>Article 53(4)</i>
				Article 5(4)			---

				Article 5(5)			<i>Article 53(6)</i>
				Article 5(6)			<i>Article 52</i>
				Article 5(7)			Annex VII, Part 4, point 1
				Article 5(8) first subparagraph			Annex VII, Part 4, point 2
				Article 5(8) second subparagraph			<i>Article 53(5)</i>
				Article 5(9)			---
				Article 5(10)			<i>Article 53(7)</i>
				Article 5(11), (12) and (13)			---
				Article 6			---
				Article 7(1), introductory wording and first, second, third and fourth indent			<i>Article 58</i>
				Article 7(1), second part			---
				Article 7(2)			---
				Article 8(1)			Article 8, introductory wording and point (1)
				Article 8(2)			Annex VII, Part 6, point 1
				Article 8(3)			Annex VII, Part 6, point 2
				Article 8(4)			Annex VII Part 6, point 3
				Article 8(5)			---
				Article 9(1), introductory wording			<i>Article 56(1), introductory wording</i>
				Article 9(1), first subparagraph, first, second and third indent			<i>Article 56, first paragraph, points (a), (b) and (c)</i>
				Article 9(1), second subparagraph			<i>Article 56, second subparagraph</i>
				Article 9(1), third			Annex VII, Part 8,

				subparagraph			point 4
				Article 9(2)			<i>Article 57(3)</i>
				Article 9(3)			Annex VII, Part 8, point 1
				Article 9(4)			Annex VII, Part 8, point 2
				Article 9(5)			Annex VII, Part 8, point 3
				Article 10	Article 4(9)		Article 9(2)
				Article 11(1), third to sixth sentences			---
				Article 12(1), second subparagraph			<i>Article 59(1)</i> , first subparagraph
				Article 12(1), third subparagraph			<i>Article 59(1)</i> , second subparagraph
				Article 12(2)			<i>Article 59(2)</i>
				Article 12(3)			<i>Article 59(3)</i>
				Article 13(2) and (3)			---
				Article 14	Article 19	Article 16	Article 70
				Annex I, first and second sentence of introductory wording			<i>Article 50</i>
				Annex I, third sentence of introductory wording and list of activities			Annex VII, Part 1
				Annex IIA, Part I			Annex VII, Part 2
				Annex IIA, Part 2			Annex VII, Part 3
				Annex IIA, Part II, last sentence of paragraph 6			---
				Annex IIB, point 1, first and second sentences			<i>Article 53(1)(b)</i>
				Annex IIB, point 1, third sentence			<i>Article 53(1)</i> , second subparagraph
				Annex IIB, point 2			Annex VII, Part 5
				Annex IIB, point 2, second subparagraph (i) and table			---

				Annex III, point 1			---
				Annex III, point 2			Annex VII, Part 7, point 1
				Annex III, point 3			Annex VII, Part 7, point 2
				Annex III, point 4			Annex VII, Part 7, point 3
					Article 1, second paragraph		---
					Article 2(1)		<i>Article 37(1)</i> , first subparagraph
					Article 2(2), introductory wording		<i>Article 37(2)</i> , introductory wording
					Article 2(2)(a), introductory wording		<i>Article 37(2)(a)</i> , introductory wording
					Article 2(2)(a), points (i) to (v)		<i>Article 37(2)(a)</i> , point (i)
					Article 2(2)(a), point (vi)		<i>Article 37(2)(a)</i> , point (ii)
					Article 2(2)(a), point (vii)		<i>Article 37(2)(a)</i> , point (iii)
					Article 2(2)(a), point (viii)		<i>Article 37(2)(a)</i> , point (iv)
					Article 2(2)(b)		<i>Article 37(2)(b)</i>
					Article 3(2), first subparagraph		Article 3(26)
					Article 3(2), second subparagraph		---
					Article 3(3)		Article 3(27)
					Article 3(4), first subparagraph		Article 3(28)
					Article 3(4), second subparagraph		<i>Article 37(1)</i> , second subparagraph
					Article 3(5), first subparagraph		Article 3(29)
					Article 3(5), second subparagraph		<i>Article 37(1)</i> , third subparagraph
					Article 3(5), third subparagraph		<i>Article 37(1)</i> , second subparagraph
					Article 3(6)		Annex VI, Part 1,

							point (a)
					Article 3(7)		Article 3(30)
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					Article 3(10)		Article 3(31)
					Article 3(13)		Article 3(32)
					Article 4(2)		Article 38
					Article 4(4), introductory wording and points (a) and (b)		Article 39 (1), introductory wording and points (a) and (b)
					Article 4(4), point (c)		Article 39 (1),point (e)
					Article 4(5)		Article 39(2)
					Article 4(6)		Article 39(3)
					Article 4(7)		Article 39(4)
					Article 4(8)		Article 48
					Article 5		Article 46
					Article 6(1), first subparagraph		Article 44(1)
					Article 6(1), second subparagraph and 6(2)		Article 44(2)
					Article 6(1), third subparagraph		Article 44(3), first subparagraph
					Article 6(1), fourth subparagraph		Article 44(3), second subparagraph
					Article 6(3)		Article 44(4)
					Article 6(4), first and second sentences of first subparagraph and Article 6(4), second subparagraph		Article 45(1)
					Article 6(4), third sentence of first subparagraph		Article 45(2)
					Article 6(4), third subparagraph		Article 45(3), second subparagraph
					Article 6(4), fourth subparagraph		Article 45(4)

					Article 6(5)		<i>Article 40(1)</i>
					Article 6(6)		<i>Article 44(5)</i>
					Article 6(7)		<i>Article 44(6)</i>
					Article 6(8)		<i>Article 44(7)</i>
					Article 7(1) and Article 7(2), first subparagraph		<i>Article 40(2), first subparagraph</i>
					Article 7(2), second subparagraph		<i>Article 40(2), second subparagraph</i>
					Article 7(3) and Article 11(8), first subparagraph, introductory wording		Annex VI, Part 6, first part of point 2.7
					Article 7(4)		<i>Article 40(2), second subparagraph</i>
					Article 7(5)		---
					Article 8(1)		<i>Article 39(1), point (c)</i>
					Article 8(2)		<i>Article 40(3)</i>
					Article 8(3)		---
					Article 8(4), first subparagraph		<i>Article 40(4), first subparagraph</i>
					Article 8(4), second subparagraph		Annex VI, Part 6, first part of point 3.2
					Article 8(4), third subparagraph		Annex VI, Part 6, second part of point 3.2
					Article 8(4), fourth subparagraph		---
					Article 8(5)		<i>Article 40(4), second and third subparagraph</i>
					Article 8(6)		<i>Article 39 (1), points (c) and (d)</i>
					Article 8(7)		<i>Article 40(4)</i>
					Article 8(8)		---
					Article 9, first subparagraph		<i>Article 47(1)</i>
					Article 9, second subparagraph		<i>Article 47(2)</i>

					Article 9, third subparagraph		<i>Article 47(3)</i>
					Article 10(1) and (2)		---
					Article 10(3), first sentence		<i>Article 42(2)</i>
					Article 10(3), second sentence		---
					Article 10(4)		<i>Article 42(3)</i>
					Article 10(5)		Annex VI, Part 6, second part of point 1.3
					Article 11(1)		<i>Article 42(1)</i>
					Article 11(2)		Annex VI, Part 6, point 2.1
					Article 11(3)		Annex VI, Part 6, point 2.2
					Article 11(4)		Annex VI, Part 6, point 2.3
					Article 11(5)		Annex VI, Part 6, point 2.4
					Article 11(6)		Annex VI, Part 6, point 2.5
					Article 11(7), first part of first sentence of first subparagraph		Annex VI, Part 6, first part of point 2.6
					Article 11(7), second part of first sentence of first subparagraph		Annex VI, Part 6, point 2.6(a)
					Article 11(7), second sentence of first subparagraph		---
					Article 11(7), second subparagraph		---
					Article 11(7), point (a)		Annex VI, Part 6, point 2.6(b)
					Article 11(7), points (b) and (c)		---
					Article 11(7), point (d)		Annex VI, Part 6, point 2.6(c)
					Article 11(7), points		---

					(e) and (f)		
					Article 11(8), first subparagraph, points (a) and (b)		Annex VI, Part 3, point 1, first and second subparagraph
					Article 11(8)(c)		Annex VI, Part 6, second part of point 2.7
					Article 11(8)(d)		Annex VI, Part 4, point 2.1, second subparagraph
					Article 11(8), second subparagraph		Annex VI, Part 6, third part of point 2.7
					Article 11(9)		Article 42(4)
					Article 11(10), points (a), (b) and (c)		Annex VI, Part 8, points (a), (b) and (c) of point 1.1
					Article 11(10)(d)		Annex VI, Part 8, point (d) of point 1.1
					Article 11(11)		Annex VI, Part 8, point 1.2
					Article 11(12)		Annex VI, Part 8, point 1.3
					Article 11(13)		Article 42(5), first subparagraph
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					Article 11(14)		Annex VI, Part 6, point 3.1
					Article 11(15)		Article 39(1), point (e)
					Article 11(16)		Annex VI, Part 8, point 2
					Article 11(17)		Article 9(2), point (a)
					Article 12(1)		Article 49(1)
					Article 12(2), first sentence		Article 49(2)
					Article 12(2), second sentence		---
					Article 12(2), third		Article 49(3)

					sentence		
					Article 13(1)		Article 39 (1), point (f)
					Article 13(2)		Article 41
					Article 13(3)		Article 40(5)
					Article 13(4)		Annex VI, Part 3, point 2
					Article 14		---
					Article 15		---
					Article 16		---
					Article 17(2) and (3)		---
					Article 20		---
					Annex I		Annex VI, Part 2
					Annex II, first part (without numbering)		Annex VI, Part 4, point 1
					Annex II, point 1, introductory wording		Annex VI, Part 4, point 2.1
					Annex II, points 1.1 – 1.2		Annex VI, Part 4, points 2.2 - 2.3
					Annex II, point 1.3		---
					Annex II, point 2.1		Annex VI, Part 4, point 3.1
---	---	---	---	---	---	---	Annex VI, Part 4, point 3.2
					Annex II, point 2.2		Annex VI, Part 4, point 3.3
					Annex II, point 3		Annex VI, Part 4, point 4
					Annex III		Annex VI, Part 6, point 1
					Annex IV, table		Annex VI, Part 5
					Annex IV, final sentence		---
					Annex V, point (a), table		Annex VI, Part 3, point 1.1
					Annex V, point (a), final sentences		---
					Annex V, point (b), table		Annex VI, Part 3, point 1.2
					Annex V, point (b),		---

					final sentence		
					Annex V, point (c)		Annex VI, Part 3, point 1.3
					Annex V, point (d)		Annex VI, Part 3, point 1.4
					Annex V, point (e)		Annex VI, Part 3, point 1.5
					Annex V, point (f)		Annex VI, Part 3, point 3
					Annex VI		Annex VI, Part 7
						<i>Article 1</i>	<i>Article 30</i>
						Article 2(2)	Annex V, Part 1, point 1 and Part 2, point 1
						Article 2(3) second part	Annex V, Part 1, point 1 and Part 2, point 1
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						Article 2(4)	---
						Article 2(6)	Article 3(20)
						Article 2(7), first subparagraph	Article 3(21)
						Article 2(7), second subparagraph and points (a) to (i)	<i>Article 30</i> , second subparagraph
						Article 2(7), second subparagraph, point (j)	---
						Article 2(7), third subparagraph	---
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						Article 2(7), fourth subparagraph	<i>Article 31(2)</i>
						Article 2(8)	Article 3(23)
						Article 2(9)	<i>Article 31(2)</i>
						Article 2 (10)	---
						Article 2(11)	Article 3(22)
						Article 2(12)	Article 3(24)
						Article 2(13)	---

						Article 3	---
						Article 4(1)	---
						Article 4(2)	<i>Article 32(2)</i>
						Article 4(3) to (8)	---
						Article 5(1)	Annex V, Part 1, point 2, last sentence
						Article 5(2)	---
						Article 6	---
						Article 7(1)	<i>Article 33</i>
						Article 7(2)	<i>Article 32(4)</i>
						Article 7(3)	<i>Article 32(5)</i>
						Article 8(1)	<i>Article 36(1)</i>
						Article 8(2), first part of first subparagraph	<i>Article 36(2)</i> , first part of first subparagraph
						Article 8(2), second part of first subparagraph	---
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---	---	---	---	---	---	---	<i>Article 36(2)</i> , second subparagraph
						Article 8(2), second subparagraph	---
						Article 8(2), points (a) to (d)	---
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						Article 9	<i>Article 32(1)</i>
						Article 10(1), first sentence	<i>Article 32(6)</i>
						Article 10(1), second sentence	---
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						Article 12	<i>Article 34(1)</i>
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						Article 13	Annex V, Part 3, third part of point 8
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						Article 15	---
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						Annex I	---
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						Annex III and IV	Annex V, point 2 of Part 1 and Part 2
						Annex V A	Annex V, Part 1, point 3
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						Annex VI A	Annex V, Part 1, points 4 and 5
						Annex VI B	Annex V, Part 2, points 4 and 5
						Annex VII A	Annex V, Part 1, points 6 and 7
						Annex VII B	Annex V, Part 2, points 6 and 7
						Annex VIII A point 1	---
						Annex VIII A point 2	Annex V, Part 3, first part of point 1 and points 2, 3 and 5
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						Annex VIII A point 3	---
						Annex VIII A point 4	Annex V, Part 3, point 6
						Annex VIII A point 5	Annex V, Part 3, points 7 and 8
						Annex VIII A point 6	Annex V, Part 3, points 9 and 10
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						Annex VIII B	---
						Annex VIII C	---
						Annex IX	Annex IX

						Annex X	Annex X
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