



COMMISSION OF THE EUROPEAN COMMUNITIES

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Proposal for a

COUNCIL DIRECTIVE

AMENDING

DIRECTIVE 94/67/EC

ON INCINERATION OF HAZARDOUS WASTE

(presented by the Commission)

EXPLANATORY MEMORANDUM

I. Background

Council Directive 94/67/EC¹ on incineration of hazardous waste, adopted on 16 December 1994, lays down provisions to prevent or minimise the effects of incineration of hazardous waste on the environment and on human health in accordance with an integrated approach in order to prevent the transfer of pollution from one medium to another. The Directive establishes harmonised measures and procedures for the operation and monitoring of emissions, and sets Community limit values for emissions into air of pollutants considered to be highly dangerous in order to ensure a high level of environmental protection in all Member States. The pollutants produced during the incineration of hazardous waste are basically organic compounds, HCl, HF, heavy metals and dioxins and furans.

The Directive also lays down requirements for the recovery and disposal of residues resulting from the operation of incineration plants.

Therefore, in order to complete the integrated approach, Article 8 of Directive 94/67/EC lays down requirements for discharges of waste water from incineration plants into the aquatic environment and, in particular, for those discharges which result from the separate treatment of exhaust gases.

These waste waters must be discharged in accordance with specific conditions.

These conditions are :

- the limitation of the volume of waste water as far as possible;
- compliance with the relevant Community, national and local provisions;
- reduction of the discharged mass of heavy metals, dioxins and furans in relation to the quantity of processed hazardous waste so as to be less than that allowed to be discharged into air.

Adequate measures based on Best Available Techniques (BAT) must be taken to prevent or minimise emissions of such pollutants given their harmful polluting potential.

Moreover, in order to ensure public confidence in such installations, it is essential to subject to strict control measures for dioxins, furans, mercury and cadmium. These pollutants have to be controlled in waste water discharges as they are in air emissions.

To this end and in order to ensure a high level of environmental protection within the European Union, the Directive request the Commission to propose to the Council within two years Community emission standards as well as associated conditions for the treatment of waste water and monitoring of the discharge of those specific pollutants contained in waste water resulting from the separate treatment of exhaust gases.

¹OJ N° L 365, 31.12.1994, p.34

II. Legal Basis

The legal basis for this Proposal is Article 130 s(1) of the Treaty establishing the European Community. The main object of the Proposal is to reduce emissions of pollutants contained in waste water produced by hazardous waste incineration plants with a view to improving and protecting the environment. It will also allow Member States to use stricter standards where needed.

Directive 94/67/EC which the present Proposal amends was adopted on the same legal basis.

III. Integrated Pollution Prevention and Control

Many of the plants covered by Directive 94/67/EC also fall within the scope of Directive 96/61/EC² on integrated pollution prevention and control (IPPC) recently adopted by Council. The IPPC Directive aims at the protection of all environmental media taken together. In bringing forward controls on water emissions from hazardous waste incinerators this initiative contributes to this goal.

The IPPC approach is one of site-specific optimisation, where local conditions are taken into account in order to match the emissions profile of the chosen pollution reduction option to the sensitivities of the receiving media, with the aim not only of reducing the mass of pollution but also minimising its negative impact on the environment. However, the case of hazardous waste incinerators is a special one, where the Council has specifically mandated the Commission to bring forward uniform Community-wide controls for the industry and thus to harmonise operation conditions.

IV. Emission Standards and Abatement Techniques

To protect the environment against polluted discharges from the incineration of hazardous waste, stringent emission limit values are needed. These limit values have to be set in accordance with Article 8 of Directive 94/67/EC which, in order to achieve the objective of non-transference of pollution from one medium to another, requires that the mass of pollutant discharged into water is less than the mass discharged into air.

Consequently, the emission limit values for water discharges must be calculated from the existing limit values for air emissions.

Waste water resulting from the separate treatment of gas scrubbing waters by a wet or semi-dry process must be cleaned and discharged using the Best Available Techniques. The most problematic polluting substances contained in this effluent are heavy metals and dioxins. Within the group of heavy metals, particular attention needs to be given to those pollutants which are highly toxic, persistent and mobile. If these techniques are not sufficient to achieve the quality objectives for the receiving waters, more stringent measures need to be applied.

²OJ L 257, 10.10.1996, p.26

The separate treatment of gas scrubbing waters is intended firstly to reduce pollutants such as mercury, cadmium and dioxins, which are to be limited independently of the quality of the receiving waters, and secondly to reduce those pollutants which must be limited depending upon the type of discharge and/or the quality of the aquatic environment. These include substances such as lead, arsenic, antimony, chromium, cobalt, copper, manganese, nickel, vanadium and tin. In addition to this there are pollutants such as chlorides, fluorides and inorganic sulphur which can be discharged subject to local conditions.

The control of suspended solids plays an essential role in the waste water treatment process, since they represent a harmful pollutant which must be controlled and at the same time provides a good indicator of the techniques to reduce the level of metals and dioxins in the discharge.

The treatment of gas scrubbing waters comprises a series of highly sophisticated operations which are considered by most experts as BAT. These operations include neutralisation, sedimentation with a flocculation process, filtration and absorption.

The emission limit values included in the present Proposal are the combination of two main elements : the use of BAT to comply with stringent emission limit values, and the concordance with the limitation of the discharged mass of heavy metals and dioxins in relation to the quantity discharged into the air.

V. Legislative situation in the Member States

A brief analysis of the actual legislative situation in the Member States as regards the incineration of hazardous wastes and in particular the standards for discharges leads to a number of considerations :

- Member States are required to transpose into national legislation the provisions of Directive 94/67/EC before 31 December 1996.
- Emission limit values (legally binding or guide values) for hazardous incineration plants, including those applied to discharges of waste water, are already laid down in the national measures of some Member States while other Member States do not have such measures.
- Among national measures there is a large disparity in emission limit values; For example, the emission limit value for cadmium discharges in France is four times as high as the value in Germany and the United Kingdom, while the emission limit value for mercury discharges in Germany and France is twice that in the United Kingdom and one thousand times the value included in a discharge permit granted by the competent authority of the Netherlands.

As regards dioxins and furans the emission limit value laid down in United Kingdom legislation is ten times as high as the value in the Netherlands and Germany.

VI. Benefits and costs of action or lack of action

Article 130r of the Treaty states that "in preparing its policy on the environment, the Community shall take account of... the potential benefits and costs of action or lack of action...". This principle is applied in Article 8 of Directive 94/67/EC, which was adopted on the basis of both environmental protection and cost-effectiveness considerations.

The Council has recognised the need for harmonised minimum standards so that all Member States could apply at least the same measures for a set of relevant pollutants discharged into the aquatic environment of the European Union. Member States may if needed, establish more stringent emission limit values.

The rationale of Article 8 of Directive 94/67/EC is such that, in order to provide a high level of environmental protection in all Member States, the discharge of waste water must be limited as far as possible and should comply with emission limit values for a number of relevant pollutants contained in waste water. These emission limit values must be derived from those adopted for air emissions in order to avoid the transfer of pollution.

The Proposal is not only a legal requirement of Directive 94/67/EC, it is also necessary for its completion. Lack of action would result in an incomplete and inconsistent piece of legislation.

The existing Directive already requires separate treatment for the gas scrubbing waters of specialised incineration plants. The cost associated with the level of treatment required to achieve the proposed emission limit values is difficult to estimate, as the treatment system is closely integrated in the wet scrubbing unit and dependent on the efficiency of the type of scrubber used.

The cost of the proposed action can be estimated as follows: the investment cost linked to waste water treatment at a specialised plant which is representative of the European sector, could represent as much as 2% of the total investment cost of a specialised incinerator or 2 to 3 ECU per tonne of incinerated waste; the operating costs linked to waste water treatment could represent 7 to 8% of the total operating costs of the incineration plant, or 20 to 30 ECU per tonne of incinerated waste.

These costs have already been incurred by industry in order to comply with the existing Directive.

Where additional investment is needed in order to comply with the emission limit values for suspended solids, mercury, cadmium or dioxins, it will represent 5 to 10% of the average cost of the waste water treatment or 0.3 ECU per tonne of incinerated waste.

VII. Information and Reporting

The information and reporting requirements related to waste water discharges from exhaust gas treatment are covered by the relevant Articles of Directive 94/67/EC.

Reporting on the general implementation of this Directive will be carried out in accordance with the procedures laid down in Article 5 of Directive 91/692/EEC³ on the standardisation of reports. The first report on the implementation of Directive 94/67/EC will cover the period 1998-2000.

VIII. Subsidiarity and Proportionality

The Proposal establishes emission limit values based on BAT for the reduction of discharges of a selected set of harmful pollutants into the aquatic environment. The setting of emission standards and associated control requirements for waste water discharges from the cleaning of flue gases at Community level is justified by the fact that these measures will set minimum requirements for the protection of the aquatic environment in particular from dioxin discharges.

Lack of action in this field would facilitate the transfer of pollutants from air to other media, which must be prevented in accordance with Directive 94/67/EC.

Practical implementation of the proposed Directive, including the setting of emission limit values for those pollutants for which limitation depends on the quality of the receiving waters and the identification of the most suitable and cost-effective measures is, therefore, to a large extent left in the hands of the Member States in line with the principle of subsidiarity. This also holds for many details concerning the supervision of the implementation of the Directive.

Directive 94/67/EC gives a clear mandate for the setting of emission standards for waste water generated by the gas cleaning system of hazardous waste incineration. To achieve this objective, the most suitable instrument is a Directive which amends Directive 94/67/EC.

³OJ L 377, 31.12.91, p.48

PROPOSAL FOR A COUNCIL DIRECTIVE
AMENDING DIRECTIVE 94/67/EC
ON INCINERATION
OF HAZARDOUS WASTE

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 130s(1) thereof,

Having regard to the proposal from the Commission ⁴,

In co-operation with the European Parliament ⁵, acting in accordance with the procedure referred to in Article 189c,

Having regard to the opinion of the Economic and Social Committee ⁶,

Whereas Directive 94/67/EC⁷ on incineration of hazardous waste laid down limit values for air emissions;

Whereas Article 8 (3) of Directive 94/67/EC requires the Council to establish a set of specific emission limit values for the pollutants contained in the effluents from the cleaning of exhaust gases to be discharged after a separate treatment;

Whereas the emission limit values set in the present Directive are coherent with the non-transfer of pollution from air to water;

Whereas high-standard measurement techniques are required to monitor emissions to ensure compliance with the emission limit values for the pollutants,

⁴ OJ N°

⁵ OJ N°

⁶ OJ N°

⁷ OJ N° L 365, 31.12.94, p. 34

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HAS ADOPTED THIS DIRECTIVE

Article 1

Council Directive 94/67/EC⁸ on the incineration of hazardous waste is hereby amended as follows:

1. Article 8 is replaced by the following:

"Article 8

1. Any waste water discharged from an incineration plant shall be subject to a permit granted by the competent authorities.
2. Discharges to the aquatic environment of waste water resulting from the cleaning of exhaust gases shall be limited as far as possible.
3. Subject to a specific provision in the permit, the waste water from the cleaning of exhaust gases may be discharged after separate treatment on condition that
 - (a) the requirements of relevant Community, national and local provisions are complied with in the form of emission limit values, and
 - (b) the mass concentration of the polluting substances, referred to in Annex IV, does not exceed the emission limit values laid down therein.
4. The emission limit values shall apply at the point where the polluting substances referred to in Annex IV are discharged from the incineration plant.
Where the waste water from the cleaning of exhaust gases is treated collectively with other on-site sources of similar waste water the operator must take measurements as specified in paragraph 8:
 - (a) on the waste water stream from the exhaust gas cleaning processes prior to its input into the collective waste water treatment plant;
 - (b) on the other waste water stream(s) prior to their input into the collective waste water treatment plant;
 - (c) at the point of final waste water discharge, after the treatment, from the incineration plant.

The operator must take appropriate mass balance calculations in order to determine the emission levels in the final waste water discharge that can be attributed to the

⁸OJ N° L 365, 31.12.1994, p.34

waste water arising from the cleaning of exhaust gases in order to check compliance with the emission limit values set out in Annex IV.

5. The competent authorities must ensure that in no instance should dilution of waste waters occur by mixing different waste water streams or otherwise, except where such mixing is part of a process duly licensed under the waste management licensing regulations.
6. The permit shall
 - (a) establish emission limit values for organic or inorganic polluting substances in line with paragraph 2 and in order to meet the requirements of paragraph 3 (a);
 - (b) set operational control parameters at least for pH, temperature, flow and turbidity;
 - (c) set a maximum volume of waste water to be discharged to ensure that the mass of heavy metals, dioxins and furans in relation to the quantity of hazardous waste processed is less than that allowed to be discharged into air.
7. A monitoring procedure must be instituted to verify whether the discharge of the polluting substances referred to in paragraph 3, paragraph 6 (a) and Annex IV complies with the emission limit values. This procedure must provide for sampling and analysis. The emission limit values are complied with if:
 - none of the daily average values exceeds any of the emission limit values set out in Annex IV for total suspended solids (polluting substance number 1); or for heavy metals, (polluting substances numbers 5 to 14), or in column B of Annex IV for mercury, cadmium and thallium, (polluting substances numbers 2, 3 and 4).
 - none of the monthly average values exceeds any of the emission limit values set out in column A of Annex IV for mercury, cadmium and thallium (polluting substances numbers 2, 3 and 4);
 - neither of the two annual measurements of dioxins and furans exceeds the emission limit value set out in Annex IV for polluting substance number 15.
8. The following measurements shall be carried out at the point of discharge
 - (a) continuous measurements of the parameters referred to in paragraph 6 (b);
 - (b) instantaneous daily measurements of total suspended solids;
 - (c) daily measurements of a representative 24-hour sampling of the polluting substances referred to in paragraph 3 with numbers from 5 to 14 in Annex IV;
 - (d) monthly measurement for mercury, cadmium and thallium;
 - (d) at least two measurements per year of dioxins and furans; however, one measurement every two months shall be carried out for the first 12 months of operation.

9. The measurement techniques shall comply with the following requirements

- (a) the measurements for the determination of concentrations of water polluting substances in the discharge are carried out representatively;
- (b) sampling and analysis of all polluting substances including dioxins and furans shall be carried out in accordance with Annex III (2);
- (c) the procedure to monitor dioxins and furans shall be authorised in accordance with Annex III (3).

10. Incineration plant sites, including associated storage areas for hazardous wastes, shall be designed and operated in such a way as to prevent the release of any polluting substances into soil and groundwater following the provisions of Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances⁹. Moreover, storage capacity shall be provided for rainwater run-off from the incineration plant site or for contaminated water arising from spillages or fire-fighting operations.

This storage capacity shall be adequate to ensure that such waters can be tested and treated before discharge where necessary".

2. The Annex to this Directive is added as Annex IV.

Article 2

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before [January 1998]. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by the Member States.

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

⁹OJ N° L 20, 26.1.1980, p.43. Directive as last amended by Directive 91/692/EEC.

Article 3

This Directive shall enter into force on the day of its publication in the *Official Journal of the European Communities*.

Article 4

This Directive is addressed to the Member States.

Done at Brussels,

For the Council

**ANNEX
"ANNEX IV
Emission Limit Values
for discharges of waste water
from the cleaning of exhaust gases**

Polluting substances	Emission limit values expressed in mass concentrations	
1- Total suspended solids as defined by Directive 91/271/EEC ¹⁰	20 mg/l	
2- Mercury and its compounds, expressed as mercury (Hg)	A 0.01 mg/l	B 0.02 mg/l
3- Cadmium and its compounds, expressed as cadmium (Cd)	A 0.02 mg/l	B 0.05 mg/l
4- Thallium and its compounds, expressed as thallium (Tl)	5 mg/l	
5- Antimony and its compounds, expressed as antimony (Sb)		
6- Arsenic and its compounds, expressed as arsenic (As)		
7- Lead and its compounds, expressed as lead (Pb)		
8- Chromium and its compounds, expressed as chromium (Cr)		
9- Cobalt and its compounds, expressed as cobalt (Co)		
10- Copper and its compounds, expressed as copper (Cu)		
11- Manganese and its compounds, expressed as manganese (Mn)		
12- Nickel and its compounds, expressed as nickel (Ni)		
13- Vanadium and its compounds, expressed as vanadium (V)		
14- Tin and its compounds, expressed as tin (Sn)		
15- Dioxins and furans, defined as the sum of the individual dioxins and furans evaluated in accordance with Annex I	0.5 ng/l	

¹⁰OJ N° L 135, 30.05.1991, p.40"

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DOCUMENTS

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