

# COMMISSION OF THE EUROPEAN COMMUNITIES

COM(75) 681 final.

Brussels, 19 December 1975

Proposal for a

## COUNCIL DIRECTIVE

relating to the use of fuel-oils with the aim of decreasing sulphurous  
emissions

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(submitted to the Council by the Commission)

COM(75) 681 final.

EXPLANATORY MEMORANDUM

This Directive Proposal provides for the use of low sulphur content fuel-oils with the aim of decreasing sulphurous emissions, particularly in regions where the air pollution by such compounds is high and likely to constitute a danger to public health.

1. Legal provisions

Some Member States have already taken or have proposed legislative provisions for the type of fuel-oil to be used in certain regions or within certain installations, or for a limitation of sulphur content of such fuels, or for a limitation of emissions with a view to protect public health against dangerous concentrations of sulphur dioxide, suspended particulate matter and other pollutants in the ambient air.

On 2 May, 1973, the Commission received a communication from the Netherlands Government relating to a draft administrative instrument for a generalized limitation of sulphur in fuels, notified under the terms of agreement on information on matters concerning the environment\*). This provision did not enter into force at the time being due to the oil supply crisis, it was put into action finally on November 1974. Under this administrative measure it is forbidden to use for combustion purposes liquid, solid or gaseous fuels with a sulphur content exceeding certain levels. The maximum sulphur content is fixed e.g. at 2.9. % for all heavy fuel-oils, to be decreased to 2.7 % by July 1975 and to 2.5 % by July 1976; for gas-oil the limit is set at 0.7 % to be decreased by December 1975 at 0.5 %.

In France zones of special protection against air pollution can be created on the basis of the law concerning the fight against air pollution and odors of August 2, 1961, and of the regulations of

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\*) Agreement dated 5 March, 1973, of the Representatives of the Governments of the Member States meeting in the Council on information for the Commission and for the Member States with a view to possible harmonization throughout the Communities of urgent measures concerning the protection of the environment.

September 17, 1963. On this legal basis 1964 already in Paris intra muros two zones of special protection have been created where the only type of fuel-oil permitted must be of low sulphur quality. Moreover, the large power stations situated around Paris are required to switch over to low sulphur fuel-oil during unfavorable meteorological conditions.

Recently two zones of special protection have been created in the region of Lille-Roubaix-Tourcoing and in the region of Lyon-Villeurbanne.

In Denmark a law came into force beginning of 1975 prohibiting the use for heating purposes of fuel-oil containing more than 2.5 % of sulphur.

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Belgium, under the terms of the regulation of July 26, 1971, has created 5 zones of special protection for Brussels, Antwerp, Charleroi, Gent, Liège. In these zones the sulphur content of solid and liquid fuels of whatsoever quality and type is limited to 1 %.

In Germany the Federal law for the protection against immissions of March 1974 (Bundes-Immissionsschutzgesetz) empowers the Federal Government to regulate the composition of fuels with respect to air polluting compounds, to regulate the quantity of emissions admitted for all installations subject to licensing; it requires the governments of the Länder to set up control zones where the air pollution is to be monitored and to establish plans for improvement of the situation.

In pursuance to this law regulations have been issued, e.g. the revised "Technical Instruction Air" (TA-Luft) of August 1974 setting emission limitations, mainly with respect to sulphur dioxide and suspended particulate matter, for a large number of installations subject to licensing; the same regulation limits the short term as well as the long term concentration of sulphur dioxide, suspended particulate matter and some other pollutants in the ambient air.

Two regulations came into force in October 1974, one setting a general limitation to the sulphur content of gas-oil, the other limiting the emission of particulate matter, soot, oil and other pollutants from

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1) Arrêté Royal

domestic furnaces. Another regulation is proposed giving the basis for establishing an air monitoring system in particularly polluted regions.

Under the terms of the law no. 615 of July 1966 all industrial installations in Italy are required to take the necessary technical measures to keep as low as technically feasible the air pollution. The territory is divided into two control zones A and B comprising the larger agglomeration and the big cities, in which limitations to emissions or to the use of certain types or qualities of fuels are set. A draft revision of this law introduces a third zone C for the most polluted large cities and restricts the use of certain types and qualities of fuels within the three zones. The sulphur content of fuel-oils to be burned within the zones is limited at different levels according to the type of installation.

In the United Kingdom no general legal limitation exists for the sulphur content of fuels to be used, exception given for the City of London area where only fuels with 1 % S max. are admitted. The Protection of the Environment Act 1974 entitles the Secretary of State to impose by regulations limits on the sulphur content of any liquid petroleum product produced in a refinery which is used in furnaces or railway locomotive engines.

The Clean Air Acts of 1956 and 1968 stipulate regulations to prevent the emissions of smoke, grit and dust from all industrial and domestic chimneys and provide for the instauration of smoke control areas. The Alkali Act 1906 and the Alkali and Works Order 1966 and 1971 require classified industries to limit as much as practicable the emission of gases, smoke, grit and dust.

## 2. Community actions

Following the reception of the above mentioned communication from the Netherlands Government the Commission, on 13 February 1974, addressed to the Council under the General Programme of 26 May 1969, aimed at the elimination of technical barriers to trade in industrial products, and also under the Community's Programme of Action on the Environment of 22 November, 1973 a proposal for a Directive which, while eliminating technical barriers to the trade in gas-oils, will also lead to a considerable reduction in the sulphur content of gas-oils and therefore also to an improvement in the environment (Doc. COM(74) 158 final, O.J. No. C 35, 28.3.1974, p.75). The Council at its meeting of 16 October 1975 agreed on this proposal.<sup>(1)</sup>

With regard to the Community's Programme of Action on the Environment the Council, on March 3, 1975 adopted a Resolution on Energy and Environment. In this resolution among other things the importance of decreasing sulphur emissions was stressed, inviting the Commission to submit proposals on policies to be followed by the Community and Member States aiming

- at a reduction of the sulphur content of gas-oil,
- at fixing regulations on the sulphur content and use of heavy fuel-oils.

Numerous studies made within the Member States as well as elsewhere underline the necessity of decreasing sulphur dioxide emissions at the source for the improvement of the air quality.

There is, on the one hand, the use of gas-oils, especially in urban areas emitting sulphur compounds at low level and, on the other hand, the small impact, on grounds of economy and energy, of the desulphurization of these gas-oils. For these reasons it was preferred to propose a general limitation of the sulphur content of gas-oils.

On the contrary, in the actual and foreseeable situation of supply with crude oil a desulphurization of all heavy fuel-oils requires considerable financial efforts. That is why the present Directive Proposal, established within the framework of the Community's environmental policy and taking

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(1) O.J. no L 307 of Nov. 27, 1975

into consideration the requirements of health and of the energy policy. contains requirements relating to the use of fuel-oils with low sulphur content within the regions which are most threatened by sulphur pollution.

The preceding chapter shows the large variety of approaches on the national level to the problems of sulphur pollution abatement.

Such legal provisions, if taken in an uncoordinated way could substantially influence the competitive situation of the installations concerned and lead to the creation of new technical barriers to trade. They may moreover cause disparities in the minimum protection of the population against air pollution from sulphur dioxide and suspended particulate matter.

For these reasons it is necessary to provide for a Community approach to the problem of decreasing sulphurous emissions from the combustion of fuel-oils.

### 3. Comments on the Directive Proposal

Article 1 gives the definition of fuel-oil, of low sulphur fuel-oil, of equivalent fuel, of the zones of special protection against sulphur dioxide and suspended particulate matter and of pollution, as used in the proposed directive.

The sulphur content of low sulphur fuel-oil put on to the Community market under this name is limited by Article 2 to 2 % by weight from 1 June 1978. A further decrease of the sulphur content to 1 % by weight is provided from 1 June 1983.

The percentages as well as the dates of coming into force proposed take into consideration the large uncertainties prevailing on the future situation of fuel-oil consumption, on the cost level of competing energy resources, on the supply situation and on the availability of low sulphur fuel-oil.

The percentage of 2 % max. sulphur content chosen for the first stage should be sufficiently high to allow for a flexible introduction of this directive at the given date without committing industry to launch a costly large-scale desulphurization programme.

Article 3 obliges Member States to create zones of special protection if the levels of air pollution by sulphur dioxide and by suspended particulate matter measured during the three preceding years in these regions have exceeded one of the values specified in paragraphe 2. The pollutant concentrations are in line with the air quality standards for sulphur dioxide and suspended particulate matter in the urban atmosphere laid down in the Directive Proposal submitted to the Council on ....., 1975.

Article 4 requires all combustion installations situated inside the zones of special protection to burn from 1 October 1978 on, only low sulphur fuel-oil or equivalent fuel unless they fall under the exceptions of Article 8

A timelimit of 18 months is given for zones to be specified after 1 January, 1978 thus allowing for smooth implementation of the requirements fixed by this Article.

Under certain meteorological conditions combustion installations situated outside the zones of special protection may contribute significantly to the ground level pollutant concentration inside the zones.

Therefore, Article 5 requires that such combustion installations located outside the zones of special protection but contributing significantly to the ground level concentration inside the zones switch over temporarily to low polluting fuels.

The same Article defines which contribution is to be considered as significant leaving to Member States the possibility to set more stringent requirements.

The protection of the population against high concentrations of sulphur dioxide and suspended particulate matter is not only required inside the zones of special protection but also outside.

A general obligation is stipulated by Article 6 for all large combustion installations situated outside the zones of special protection to use temporarily low sulphur fuel-oil or on equivalent fuel during episodes of high concentrations of sulphur dioxide and suspended particulate matter occurring within the area of influence of these installations. The competent national authorities are required to define the extent of the areas of influence.

Under the terms of Article 7 Member States may apply the provisions of this directive more rapidly than required by the preceding Articles.

For reasons of uncertainties on the future supply situation, on the limited availability of low sulphur fuel-oil and on the quantities of such fuels needed inside the zones which have still to be defined geographically, a certain number of exceptions are given from the obligations of Article 4, paragraph 1.

Firstly it is desirable to encourage the development and the introduction of processes (e.g. flue gas desulphurisation, fluid bed combustion, fuel gasification) allowing for a decrease of sulphur emissions by eliminating sulphur at the installation itself during or after combustion. Such processes could constitute interesting and perhaps less costly alternatives to a desulphurization programme carried out at the refinery level.

Secondly in certain industrial processes which use fuel-oils for heating purposes during the production of large fraction of the sulphur dioxide generated at combustion of the fuel is not emitted but retained chemically in the products (e.g. cement fabrication).

Therefore, Article 3 paragraph 1 a accepts the two above mentioned categories of installations making use of such processes provided the resulting level of sulphur dioxide emissions is not higher than that which is reached upon burning low sulphur fuel-oil.



Thirdly, an important number of large combustion installations, e.g. power plants, are actually equipped with high stacks which, although not eliminating the sulphur dioxide emitted, assure a dispersion of the emissions at greater altitude and over a large area mainly in down wind direction. The ground level concentrations of sulphur dioxide and other emitted pollutants are considerably decreased in the vicinity of such plants. Nevertheless, under abnormal meteorological and particular topographical conditions the emitted pollutants may fall back to the ground at short distance from the installation and may then constitute a threat to public health and to the environment.

The large combustion installations and above all the power plants are the main consumers of fuel oils. The cost of electricity produced by them is - under the actual economic circumstances - very sensitive to variations in fuel costs.

For reasons of supply difficulties with resulting extra costs for low sulphur fuel-oils it is not appropriate to require these installations to use only such fuel-oils, as long as their contribution to the ground level concentration of sulphur dioxide is not significant. Therefore paragraph 1 b of Article 8 exempts these installations from the obligation of Article 4 first paragraph, provided that they are controlled by a monitoring network and that they are also equipped with an adequate reserve of low sulphur fuel-oil or an equivalent fuel.

Paragraph 2 of Article 8 specifies which contribution of these installations to the total ground level concentrations inside the zones of special protection has to be regarded as significant giving the possibility to Member States to set more stringent requirements.

Paragraph 3 of Article 8 requires the installations exempted under paragraph 1 b of this Article to use temporarily only low-sulphur fuel-oil or an equivalent fuel in case of episodes of high concentration of sulphur dioxide and suspended particulate matter occurring within the zones of special protection.

Paragraph 4 of Article 8 finally obliges Member States to take all necessary measures assuring that the operation of the installations referred to under

paragraph 1 b does not give rise to pollution outside the zones or to transfrontier pollution. The definition of pollution as indicated in Article 1 is identical to that given in the OECD recommendation no. C(74)224 of 21 November 1974.

Article 9 requires for information of the Commission of decisions taken by Member States to create zones of special protection and of any other parameters taken into consideration in their decisions.

Article 10 obliges Member States to check by sampling that the sulphur content of low sulphur fuel-oil burnt by the installations being subject to this directive complies with the limits set herein.

Article 11 indicates the reference methods as given in annex II to be used for the determination of sulphur content of fuel-oils and for the measurement of ground level concentrations of sulphur dioxide and suspended particulate matter.

Taking into consideration the uncertainties mentioned above in relation to the future supply situation and economic data, Article 12 underlines the Commission's obligation to keep the operation of the directive under review and submit appropriate proposals when necessary to the Council. This provision is intended to facilitate a smooth introduction of the directive, so as to take decisions now which will put obligations upon the Member States in some years time, and to adapt the directive later, should the situation substantially change.

Article 13 set the timelimit for putting into force the directive's provision at the national level at 6 months after its notification. This short timelimit is required in order to give the industry sufficient time to prepare itself. The Commission must be informed of the provisions of national law adopted by the Member States in pursuance of this directive.

#### 4. Consultation of the European Parliament and the Economic and Social Committee

The opinions of the European Parliament and the Economic and Social Committee are required under the provisions of Article 100 of the EEC-Treaty.

PROPOSAL FOR A COUNCIL DIRECTIVE  
relating to the use of fuel-oils with the  
aim of decreasing sulphurous emissions

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

- Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,
- Having regard to the Proposal from the Commission,
- Having regard to the Opinion of the European Parliament,
- Having regard to the Opinion of the Economic and Social Committee,
- Whereas any disparity between the provisions on the sulphur content and use of certain fuel-oils already applicable or in preparation in the various Member States may create unequal conditions of competition and thus directly affect the functioning of the Common Market; whereas it is therefore necessary to approximate laws in this field as provided for in Article 100 of the Treaty;
- Whereas the Resolution on Energy and Environment adopted by the Council on March 3, 1975<sup>(1)</sup> taking into consideration the Commission's preliminary report on the problems of pollution and nuisances originating from energy production<sup>(2)</sup> and the Programme of Action of the European Communities on the Environment, invites the Commission to submit proposals on policies to be followed by the Community and Member States among which are regulations on the sulphur content and use of heavy fuel-oil;
- Whereas in accordance with the Declaration of the United Nations conference on the human environment adopted in Stockholm, care should be taken to ensure that activities carried out in one state do not cause any degradation of the environment in another state, e.g. by transfrontier pollution;

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(1) O.J. No. C 168 of July 25, 1975

(2) Doc. SEC(74) 1150 final.

- Whereas the protection of the environment and of public health requires surveillance and a decrease in air pollution from sulphur dioxide and suspended particulate matter, in order to safeguard against subsequent deterioration of the atmosphere especially in densely populated areas;
- Whereas certain Member States have notified the Commission of projects and laws relating, inter alia, to the use of certain grades of fuel-oil in combustion installations for the purpose of bringing about a reduction in sulphur emissions;
- Whereas in view of the high levels of sulphur dioxide together with suspended particulate matter measured in the air in many regions of the Member States, of the detrimental influence of these compounds on public health and on the quality of the environment, and of the important contribution of fuel-oils to sulphur pollution, it is necessary, at a Community level, to reduce progressively and perceptibly the emissions of sulphur arising from the combustion of fuel-oils in regions which are particularly threatened by air pollution from sulphur dioxide (henceforth referred to as "zones of special protection");
- Whereas, under the actual and foreseeable conditions of supply of crude oil, a general limitation of the sulphur content of all fuel-oils will require considerable financial efforts;
- Whereas the use of low sulphur fuel-oil or of equivalent fuels constitutes an efficient and economically defensible means for the abatement of sulphur pollution within the most affected regions, and whereas it is necessary to make the best use of such low-polluting fuel-oils, considering their cost and limited availability;
- Whereas it is desirable at the present time to define the maximum sulphur content of fuel-oils whose use will be required, from 1 October 1978 (first stage) and from 1 June 1983 (second stage) in the zones of special protection specified by the Member States;

- Whereas the population must be protected, during special meteorological conditions which favour the persistancy of high levels of sulphur dioxide and of suspended particulate matter in the atmosphere, both inside and outside the zones of special protection, against the detrimental effects of these pollutants by requiring that:
  - installations situated outside the zones but contributing significantly to the ground level concentration of sulphur dioxide inside the zones,
  - and installations situated outside the zones, with a thermal power rating of 100 MW or more, whenever in the areas affected by them the average level for both pollutants during a 24 hour period has exceeded the values laid down in table 2 of Annex I to this Directive, should be fueled temporarily with low sulphur fuel-oil or equivalent fuels as long as the high air pollution level persists;
- Whereas it is also desirable to encourage the development and the introduction of other processes resulting in an equivalent decrease of emissions of sulphur dioxide and to make certain exemptions including installations making use of such processes;
- Whereas it is necessary to provide measures of control, and in particular by means of random sampling, to check the sulphur content of fuel-oils of the low sulphur category placed on the market and whereas this content must be determined by means of a uniform method;
- Whereas it is desirable that concentrations of sulphur dioxide and suspended particulate matter, which are the basis for the creation of zones of special protection, should be determined by the same harmonized measurement methods;

HAS ADOPTED THIS DIRECTIVE :

Article 1

For the purpose of this Directive -

- a) fuel-oil means any oil product falling within sub-heading 27.10 C II of the Common Customs Tariff annexed to Regulation (EEC) no 2658/74 of the Council of 15 October 1974 (1), intended for use in combustion installations;
- b) low sulphur fuel-oil means any fuel-oil the sulphur content of which does not exceed the limits laid down in article 2;
- c) equivalent fuel means any fuel with a maximum sulphur content not in excess of that of low sulphur fuel-oil;
- d) zones of special protection mean all regions specified by Member States as zones of special protection against sulphur dioxide and suspended particulate matter in accordance with article 3.
- e) pollution means the introduction by man, directly or indirectly, of substances or energy into the environment, resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems, and impair or interfere with amenities and other legitimate uses of the environment.

Article 2

1. Member States shall take all necessary measures to ensure that fuel-oil intended for use as fuel in the combustion installations referred to in articles 4, 5 and 6 are not put on the market within the Community under the description of low sulphur fuel-oil if their content in sulphur compounds, calculated in terms of sulphur exceeds:

- 2,0 % by weight from 1 June 1978 and

- 1,0 % by weight from 1 June 1983.

2. Should environmental requirements or the state of desulphurizing technology change appreciably or should the economic situation in the Community as regards the supply of crude oil change substantially, the Commission may, on its own initiative or at the request of a Member State, propose

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(1) O.J. No. L 295, 1.11.1974, p.1

amendments to the levels indicated in paragraph 1 above for the period beginning 1 June 1983. The Council may decide on such amendments, by a qualified majority, not later than 1 June 1980.

3. If, because of a sudden change in crude oil deliveries, changes should occur in the sulphur content of the oil such as to jeopardize supplies to consumers in view of the shortage of available desulphurization capacity, a Member State may allow in its territory low sulphur fuel-oil not meeting the limits laid down in paragraph 1 above. It shall forthwith notify the Commission, which shall, after consulting the other Member States, decide within 3 months on the duration and details of the derogation.

#### Article 3

1. Member States may specify zones of special protection, based above all upon the actual levels of sulphur dioxide and suspended particulate matter.
2. Regions in which a level of air pollution represented by any one of pairs of value ranges for the concentration of sulphur dioxide and the associated concentration of suspended particulate matter laid down in table 1 of Annex 1 to this Directive has been exceeded in each of the three preceding years shall be specified as zones of special protection.

#### Article 4

1. From 1 October 1978, combustion installations situated within zones of special protection, using fuel-oils must, except as provided for in Article 3 of this Directive, burn only low-sulphur fuel-oils or equivalent fuels.
2. In the case of zones of special protection which are specified subsequently to 1 January 1978, paragraph 1 shall enter into force 18 months after the designation of such zones.

Article 5

1. If under adverse meteorological conditions combustion installations burning fuel-oil situated outside of the zones of special protection contribute significantly to the ground level concentration of sulphur dioxide inside the zones then Member States shall require them to burn temporarily low sulphur fuel-oil or an equivalent fuel.
2. An aggregate contribution of installations situated outside the zones of special protection of more than 20 percent of the total ground level concentration of sulphur dioxide inside the zones is regarded as significant unless the competent authorities in the Member States require lower percentages.

This aggregate contribution may be determined or by an appropriate monitoring network or by models taking into account above all climatic (repartition of dominant winds, temperatures) and topographic features of the region within which the zones are situated.

Article 6

1. From October 1, 1978 combustion installations situated outside of the zones of special protection, having a thermal power rating of 100 MW or more and burning fuel-oils must use low sulphur fuel-oil, or an equivalent fuel, as soon as for a 24 hour period the average concentration of sulphur dioxide and of suspended particulate matter at ground level within the area of influence of these installations has exceeded any of the pairs of the value ranges laid down in table 2 of Annex I to this Directive, and continue that use until these concentrations for a 24 hour period have fallen back below the value ranges in table 2 of Annex I.
2. The competent authorities in the Member States shall define the areas of influence of these installations taking into consideration the characteristics of the emission sources as well as meteorological, topographical and other pertinent conditions.

Article 7

Member States may implement the provisions of the articles 2, 4 and 6 at a faster rate than as laid down in these articles.



Article 8

1. Paragraph 1 of article 4 shall not apply to:

- (a) Combustion installations and plants employing processes where the level of sulphur dioxide emissions does not exceed that which is reached when the installation is burning low sulphur fuel-oil under such conditions that all sulphur is emitted;
- (b) Combustion installations controlled by a monitoring network and equipped with an adequate reserve of low sulphur fuel-oil or an equivalent fuel, provided that the emissions from these installations, during normal meteorological conditions, do not contribute significantly to the concentration of sulphur dioxide measured at ground level within the zones of special protection;
- (c) Sea going ships calling at a port located within a zone of special protection.

2. An aggregate contribution of installations exempted under paragraph 1 b) of more than 20 percent of the total ground level concentration of sulphur dioxide inside the zones is regarded as significant unless the competent authorities in the Member States require lower percentages.

This aggregate contribution may be determined or by an appropriate monitoring network or by models taking into account above all climatic (repartition of dominant winds, temperatures) and topographic features of the region within which the zones are situated.

3. Where, however, for a 24 hour period the average concentration of sulphur dioxide and suspended particulate matter, measured at ground level in the zone of special protection in which an installation, exempted under paragraph 1 b) is situated, has exceeded any of the pairs of value ranges laid down in table 2 of Annex I to this Directive, the use of low sulphur fuel-oil or an equivalent fuel by such an installation shall be mandatory until these concentrations have fallen back below the value ranges in table 2 of Annex I for a 24 hour period.

4. Member States shall take the appropriate measures to assure that the operation of the installations referred to under paragraph 1 b) of this article does not give rise to pollution outside the zones or to transfrontier pollution.

Article 9

Member States shall notify the Commission of the zones of special protection specified pursuant to article 3, not later than six months after the decision in question. They shall also notify any other criteria taken into consideration in their decision (for example population density, industrial activities giving rise to pollution and special topographical and meteorological conditions).

Article 10

Member States shall take the necessary measures to inspect and check by sampling that the sulphur content of fuel-oils burnt by the combustion installations referred to in Articles 4, 5, 6 and 8 complies with the provisions of this Directive.

Article 11

The measurement methods used to determine the concentrations of sulphur dioxide and of suspended particulate matter in the atmosphere and the sulphur content of fuel-oils shall be those specified in Annex II to this Directive.

Article 12

The Commission shall keep the operation of this Directive under review, in particular in the light of:

- data available on changes in the levels of air pollution by sulphur compounds and suspended particulate matter measured;
  - changes in the supply situation for oil;
  - technical and economic progress in the development of methods for reducing sulphur emissions;
  - data collected from the Member States, particularly under Article 9 of this Directive,
- and shall submit appropriate proposals, when necessary, to the Council.

Article 13

1. Member States shall introduce provisions laid down by law, regulation or administrative action needed in order to comply with this Directive within six months of its notification and shall forthwith inform the Commission thereof.
2. Member States shall ensure that the texts of the provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 14

This Directive is addressed to the Member States.

Done at

Annex I

Ambiant air concentrations of sulphur dioxide and of suspended particulate matter to be considered for the application of this Directive

Table 1 : Ambiant air concentrations of sulphur dioxide and of suspended particulate matter to be considered for the specification of zones of special protection

Period considered	Max. Concentration of sulphur dioxide (median of daily averages, in $\mu\text{g}/\text{m}^3$ )	Associated concentration of suspended particulate matter (median of daily averages, in $\mu\text{g}/\text{m}^3$ )
Year	80	> 40
	120	< 40
Winter season (October to March)	130	> 60
	180	< 60

Table 2 : Ambiant air concentrations of sulphur dioxide and of suspended particulate matter to be considered for the pollution episodes

Period considered	Max. Concentration of sulphur dioxide (arithmetic mean, in $\mu\text{g}/\text{m}^3$ )	Associated concentration of suspended particulate matter (arithmetic mean, in $\mu\text{g}/\text{m}^3$ )
24 hours	250	> 100
	350	< 100

ANNEX II

Analytical and measurement methods to be used

1. Analysis of sulphur content

The analytical reference method is that defined by the European Standard EN 41, first edition, November 1975.

For routine analyses Member States may allow for other methods provided that the results can be clearly correlated with those obtained by the reference method.

2. Measurement of sulphur dioxide and suspended particulate matter concentration in the ambient air

The reference measurement methods are those indicated in the Directive Proposal on air quality standards for sulphur dioxide and suspended particulate matter in the urban atmosphere, submitted by the Commission to the Council on .....1975

i.e. - for the determination of sulphur dioxide the method proposed in the draft standard proposal ISO DP 4219 based on the principle of the colorimetric reaction to pararosaniline. All other methods demonstrated as being equivalent by the Member States may be used;

- for the measurement of suspended particulate matter in the atmosphere the determination of black smoke, as standardised by the "Working group on air pollution measurement methods and investigation techniss" of OECD (1964). All other methods demonstrated as being equivalent by the Member States may be used.