

This document is meant purely as a documentation tool and the institutions do not assume any liability for its contents

**COUNCIL DIRECTIVE**  
**of 7 March 1985**  
**on air quality standards for nitrogen dioxide**  
**(85/203/EEC)**

(OJ No L 87, 27. 3. 1985, p. 1)

Amended by:

	Official Journal		
	No	page	date
Council Directive of 20 December 1985 (85/580/EEC)	L 372	36	31. 12. 1985
Council Directive of 23 December 1991 (91/692/EEC)	L 377	48	31. 12. 1991

Amended by:

Agreement on the European Economic Area (2 94 A 0103(70))	L 1	494	3. 1. 1994
---	-----	-----	------------

**COUNCIL DIRECTIVE**  
**of 7 March 1985**  
**on air quality standards for nitrogen dioxide**  
**(85/203/EEC)**

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission <sup>(1)</sup>,

Having regard to the opinion of the European Parliament <sup>(2)</sup>,

Having regard to the opinion of the Economic and Social Committee <sup>(3)</sup>,

Whereas the programmes of action of the European Communities on the environment of 1973 <sup>(4)</sup>, 1977 <sup>(5)</sup> and 1982 <sup>(6)</sup> provide that priority is to be given to measures against nitrogen dioxide because of its noxiousness and having regard to the current state of knowledge of its effects on human health and the environment;

Whereas insufficient technical and scientific information is available to enable the Council to lay down specific standards for the environment generally and whereas the adoption of limit values for the protection of human health will contribute to the protection of the environment as well;

Whereas any discrepancy between the provisions already applicable or being drawn up in the various Member States with regard to nitrogen dioxide in the air could give rise to unequal conditions of competition and could in consequence directly affect the functioning of the common market; whereas, therefore, the approximation of laws prescribed in Article 100 of the Treaty should be carried out in this area;

Whereas one of the basic tasks of the Community is to promote throughout the Community a harmonious development of economic activities and a continued and balanced expansion, which is inconceivable without an attack on pollution and nuisance or an improvement in the quality of life and the protection of the environment; whereas, since the Treaty has not provided the necessary powers, recourse must be had to Article 235 of the Treaty;

Whereas, in order to protect in particular human health and the environment, it is necessary to set for nitrogen dioxide a limit value which must not be exceeded in the territory of the Member States during specified periods and whereas this value should be based on the results of work carried out for the World Health Organization, particularly with regard to the dose/effect relationships established for this pollutant;

Whereas, despite the measures taken, it may not be possible to comply with the limit value in certain zones; whereas the Member States may be allowed temporary deroga-

---

(1) OJ No C 258, 27. 9. 1983, p. 3.  
(2) OJ No C 337, 17. 12. 1984, p. 434.  
(3) OJ No C 206, 6. 8. 1984, p. 1.  
(4) OJ No C 112, 20. 12. 1973, p. 1.  
(5) OJ No C 139, 13. 6. 1977, p. 1.  
(6) OJ No C 46, 17. 2. 1983, p. 1.

tions on condition that they forward to the Commission plans for the gradual improvement of the quality of the air in these zones;

Whereas it is expected that the Council will shortly establish a further legal act enabling Member States to impose significantly lower limit values for exhaust gases from motor vehicles;

Whereas the measures taken pursuant to this Directive must be economically feasible and compatible with balanced development;

Whereas nitrogen dioxide is also a precursor in the formation of photochemical oxidants which can be harmful to man and the environment and whereas preventive action can help reduce their formation;

Whereas it is necessary to establish measuring stations to monitor compliance with the limit value for nitrogen dioxide and whereas it is desirable that these stations also measure nitric oxide which is an intermediary step in the formation of nitrogen dioxide;

Whereas, in view of the existence of different methods of analysis in the Member States, it is necessary to permit, under certain conditions, the use of methods of analysis other than the reference method laid down in the Directive;

Whereas, in addition to the limit value, there is a need to provide for guide values to improve the protection of human health and contribute to the long-term protection of the environment;

Whereas subsequent changes in the reference method of analysis referred to in this Directive may be desirable in the light of technical and scientific progress in this area; whereas, in order to facilitate the implementation of the work necessary to this end, a procedure should be set up to establish close cooperation between Member States and the Commission within a Committee on Adaptation to Scientific and Technical Progress,

HAS ADOPTED THIS DIRECTIVE:

*Article 1*

85/203/EEC

1. The purpose of this Directive is to:
  - fix a limit value (Annex I) for nitrogen dioxide in the atmosphere specifically to help protect human beings against the effects of nitrogen dioxide in the environment,
  - lay down guide values (Annex II) for nitrogen dioxide in the atmosphere in order to improve the protection of human health and contribute to the long-term protection of the environment.
2. This Directive shall not apply to exposure at work or inside buildings.

*Article 2*

For the purposes of this Directive:

- 'limit value' means the concentration of nitrogen dioxide as defined in the table in Annex I which must not be exceeded throughout the territory of the Member States during specified periods and under the conditions laid down in the following Articles,
- 'guide values' means the concentrations of nitrogen dioxide as given in Annex II considered over specified periods and intended, in particular, to serve as reference points for the establishment of specific schemes within zones determined by the Member States.

*Article 3*

1. Member States shall take the necessary measures to ensure that as from 1 July 1987 the concentrations of nitrogen dioxide in the atmosphere measured in accordance with Annex III are not greater than the limit value given in Annex I.
2. However, when in particular circumstances the nitrogen dioxide concentrations in the atmosphere in certain zones are likely, despite the measures taken, to exceed the limit value in Annex I after 1 July 1987, the Member State concerned shall inform the Commission thereof before 1 July 1987.

It shall forward plans for the gradual improvement of the quality of the air in these zones to the Commission as soon as possible. These plans, drawn up on the basis of relevant information on the nature, origin and development of this pollution, shall describe, in particular, the measures taken or to be taken and the procedures implemented or to be implemented by the Member State concerned. These measures and procedures must aim at reducing the nitrogen dioxide concentrations in the atmosphere within these zones to values not exceeding the limit value given in Annex I as rapidly as possible and by 1 January 1994 at the latest.

*Article 4*

1. In the zones in which the Member State concerned considers it necessary to limit or prevent a foreseeable increase in pollution by nitrogen dioxide in the wake of urban or industrial development in particular, it may fix values lower than the limit value in Annex I.
2. In zones which the Member State concerned considers should be afforded special environmental protection, it may fix values which are generally lower than the guide values in Annex II.

*Article 5*

Member States may, at any time, fix values more stringent than those laid down in this Directive.

*Article 6*

Member States shall establish measuring stations to supply the data necessary for the application of this Directive in accordance with the specifications in Annex III, in particular in zones where the limit value is exceeded or likely to be exceeded and in the zones referred to in Article 4.

Such stations may also measure concentrations of nitric oxide.

*Article 7*

1. From 1 July 1987 Member States shall inform the Commission, not later than six months after the end (31 December) of the annual reference period, of instances in which the limit value laid down in Annex I has been exceeded and of the concentrations recorded.
2. Member States shall also notify the Commission, not later than one year after the end of the annual reference period, of the reasons for such instances and of the measures they have taken to deal with them.
3. In addition, Member States shall inform the Commission, at its request, of:
  - the concentrations they have measured,
  - the limit values, deadlines and timetables they have laid down,
  - any appropriate measures they have taken,
 concerning the zones referred to in Article 4 (1) and (2).  
 This information must also be made available to the public.

4. The Commission shall each year communicate to the Member States the information it has received pursuant to this Article.

85/203/EEC

91/692/EEC

*Article 8*

85/203/EEC

At intervals of three years Member States shall send information to the Commission on the implementation of this Directive, in the form of a sectoral report which shall also cover other pertinent Community Directives. The report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission in accordance with the procedure laid down in Article 6 of Directive 91/692/EEC <sup>(7)</sup>. The questionnaire or outline shall be sent to the Member States six months before the start of the period covered by the report. The report shall be made to the Commission within nine months of the end of the three-year period covered by it.

91/692/EEC

The first report shall cover the period from 1994 to 1996 inclusive.

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

*Article 9*

85/203/EEC

The application of the measures taken pursuant to this Directive must not lead to a significant deterioration in the quality of the air in zones, outside urban areas, where the level of pollution by nitrogen dioxide at the time of implementation of this Directive is low in relation to the limit value laid down in Annex I.

*Article 10*

In applying this Directive, Member States shall use:

- either the reference method of analysis referred to in Annex IV,
- or any other method of analysis which the Commission has been shown is equivalent to the reference method.

*Article 11*

1. Where a Member State intends to fix, in a region near the border with one or more other Member States, values for concentrations of nitrogen dioxide in the atmosphere in accordance with Article 4 (1) and (2), it shall hold prior consultations with the Member States concerned. The Commission shall be informed and may attend such consultations.

2. Where the limit value given in Annex I or the values referred to in Article 4 (1) and (2) — provided that the latter values have been the subject of consultations in accordance with paragraph 1 — are or are likely to be exceeded following significant pollution which originates or may originate in another Member State, the Member States concerned shall hold consultations with a view to remedying the situation. The Commission shall be informed and may attend such consultations.

<sup>(7)</sup> OJ No L 377, 31. 12. 1991, p. 48.

*Article 12*

The amendments necessary to adapt the specifications in Annex IV to technical progress shall be adopted in accordance with the procedure described in Article 14. These amendments shall not be such as to alter, directly or indirectly, the limit value laid down in Annex I.

*Article 13*

1. For the purposes of Article 12, a Committee on the Adaptation of this Directive to Scientific and Technical Progress, hereinafter called 'the Committee', shall be set up, composed of representatives of the Member States with a Commission representative as Chairman.
2. The Committee shall adopt its own rules of procedure.

*Article 14*

1. Where the procedure laid down in this Article is to be followed, matters shall be referred to the Committee by its Chairman, either on his own initiative or at the request of the representative of a Member State.
2. The Commission representative shall submit a draft of the measures to be taken to the Committee. The Committee shall give its opinion on the draft within a time limit set by the Chairman having regard to the urgency of the matter. Decisions shall be taken by a majority of 54 votes, the votes of the Member States being weighted as provided in Article 148 (2) of the Treaty. The Chairman shall not vote.
3. The Commission shall adopt the proposed measures if they are consistent with the opinion of the Committee.

Where the proposed measures are not consistent with the opinion of the Committee, or if no opinion is delivered, the Commission shall without delay submit to the Council a proposal on the measures to be taken. The Council shall decide by a qualified majority.

If, within three months of the proposal being submitted to it, the Council has not acted, the proposed measures shall be adopted by the Commission.

*Article 15*

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 1 January 1987 at the latest and shall forthwith inform the Commission thereof.
2. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

*Article 16*

This Directive is addressed to the Member States.

85/203/EEC

85/580/EEC

## ANNEX I

85/203/EEC

**LIMIT VALUE FOR NITROGEN DIOXIDE**

(The value limit shall be expressed in  $\mu\text{g}/\text{m}^3$ . The volume must be standardized at the following condition of temperature and pressure: 293 K and 101,3 kPa)

Reference period <sup>(1)</sup>	Limit value for nitrogen dioxide
Year	200
	98th percentile calculated from the mean values per hour or per period of less than an hour recorded throughout the year <sup>(2)</sup>

<sup>(1)</sup> The annual reference period begins on 1 January in any given calendar year and ends on 31 December.

<sup>(2)</sup> To ensure that the validity of the calculation of the 98th percentile is recognized, 75 % of the possible values must be available and, as far as possible, distributed uniformly throughout the year in question for that particular measurement site.

In cases where the values measured on certain sites are not available over a period exceeding 10 days. (SIC! days,) the calculated percentile must mention this fact.

The calculation of the 98th percentile on the basis of the values recorded throughout the year is to be carried out as follows: the 98th percentile must be calculated from the values actually measured. The measured values should be rounded off to the nearest  $\mu\text{g}/\text{m}^3$ . All the values are to be listed in increasing order for each site:

$$X_1 \leq X_2 \leq X_3 \leq \dots \leq X_k \leq \dots \leq X_{N-1} \leq X_N$$

The 98th percentile is the value of the component of rank k where k is calculated from the following formula:

$$k = (q \times N)$$

where q is equal to 0,98 for the 98th percentile and to 0,50 for the 50th percentile, N being the number of values actually measured. The value of (q x N) should be rounded off to the nearest whole number.

Where measuring equipment does not yet allow the production of discrete values but provides only classes of values higher than  $1 \mu\text{g}/\text{m}^3$ , the Member State concerned may, for the calculation of the percentile, use an interpolation, provided that the interpolation formula is accepted by the Commission and that the classes of values are not higher than  $10 \mu\text{g}/\text{m}^3$ . This temporary waiver is only valid for equipment currently installed for a time span not exceeding the life of the equipment and in any case limited to 10 years from the application of this Directive.



## ANNEX II

**GUIDE VALUES FOR NITROGEN DIOXIDE**

(The value limit shall be expressed in  $\mu\text{g}/\text{m}^3$ . The volume must be standardized at the following conditions of temperature and pressure: 293 K and 101,3 kPa)

Reference period	Guide values for nitrogen dioxide
Year	50
	50th percentile calculated from the mean values per hour or per period of less than an hour recorded throughout the year
	135
	98th percentile calculated from the mean values per hour or per period of less than an hour recorded throughout the year

The formula given in footnote <sup>(2)</sup> of Annex I must be used in calculating these percentiles, the value of  $q$  being 0,50 for the 50th percentile and 0,98 for the 98th percentile.

85/203/EEC

## ANNEX III

85/203/EEC

**MONITORING THE CONCENTRATION OF NITROGEN DIOXIDE**

1. The purpose of measuring NO<sub>2</sub> concentrations in the environment is to assess the individual risk of exposure in excess of the limit value as closely as possible; measurement points should accordingly be chosen by the Member States wherever possible from among sites where this risk is likely to be the greatest.

Two separate cases need to be considered:

- 1.1. zones predominantly affected by pollution from motor vehicles and therefore limited to the vicinity of roads carrying heavy traffic;
- 1.2. more extensive zones in which discharges from fixed sources also make a significant contribution to pollution.

2. In the case of 1.1, the measurement points should be selected so as to:

- cover examples of the main types of zone predominantly affected by pollution from motor vehicles, particularly 'canyon' streets carrying heavy traffic and major intersections,
- be, as far as possible, those in which NO<sub>2</sub> concentrations, as specified in paragraph 1, are likely to be among the highest.

3. The number of stations to be set up for the zones defined in paragraph 1.2 should reflect:

- the extent of the polluted zone,
- the uneven spatial distribution of the pollution.

The choice of sites should not exclude 'canyon' streets carrying heavy traffic and major intersections as defined in paragraph 2 if there is a danger of the limit value being exceeded owing to substantial pollution from fixed sources of combustion.

4. The final reading of the instruments should be processed in such a way that an hourly mean or a mean of less than an hour may be calculated in accordance with the provisions of Annex I. In order to enable possible checks to be made, data should be stored where:
- the limit value has not been exceeded, until the next periodic report by the Commission is drawn up as provided for in Article 8,
  - the limit value has been exceeded, until the measures called for in Article 3 have been taken.

85/203/EEC

## ANNEX IV

85/203/EEC

**REFERENCE METHOD OF ANALYSIS TO BE USED  
FOR THE PURPOSES OF THIS DIRECTIVE**

The reference method of analysis used to determine nitrogen oxides shall be the chemiluminescence method described in ISO standard DIS 7996.

For these methods the language versions published by the ISO and any other versions certified by the Commission as being in line with them shall be considered authentic.

In using the measurement methods, the following points should be taken into consideration:

1. The sampling head should be at a distance of at least 0,5 m from buildings in order to avoid a screening effect.
2. The sampling line (pipes and connections) should be of inert materials (e.g. glass, PTFE, stainless steel) which do not alter the NO<sub>2</sub> concentration.
3. The sampling line between the sampling head and the instrument should be as short as possible. The time taken for gas volume samples to pass through the sampling line should not exceed 10 seconds.
4. The sampling head entry must be protected against rain and insects. If a pre-filter is used, it should be selected and maintained (regular cleaning) so as to minimize its influence on the NO<sub>2</sub> concentration.
5. Condensation in the sampling line must be avoided.
6. The sampling line should be cleaned regularly, taking local conditions into account.
7. Sampling should not be influenced by gas discharges from the instrument or discharges from the calibration system.
8. Sampling at the sampling head should not be influenced by adjoining installations (the air-conditioning or data transmission equipment).
9. All the necessary precautions must be taken to prevent temperature variations from producing an excessive percentage of errors of measurement.
10. The instruments should be calibrated regularly.
11. The sampling line must be air-tight and the flow-rate must be inspected regularly.