#### COMMISSION DECISION

#### of 29 April 2004

laying down a questionnaire to be used for annual reporting on ambient air quality assessment under Council Directives 96/62/EC and 1999/30/EC and under Directives 2000/69/EC and 2002/3/EC of the European Parliament and of the Council

(notified under document number C(2004) 1714)

(Text with EEA relevance)

(2004/461/EC)

### THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management 42, and in particular Article 12(1) thereof,

#### Whereas:

- (1) Directive 96/62/EC establishes the framework for assessment and management of ambient air quality and provides that detailed arrangements are to be laid down for the reporting of information on air quality.
- (2) Council Directive 1999/30/EC of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air<sup>43</sup> lays down limit values to be met on a certain target date.
- (3) Commission Decision 2001/839/EC laying down a questionnaire to be used for annual reporting on ambient air quality assessment under Directives 96/62/EC and 1999/30/EC<sup>44</sup> provided a model on the basis of which Member States were to provide the information on air quality required under those Directives.
- (4) Directive 2000/69/EC of the European Parliament and of the Council of 16 April 2000 relating to limit values for benzene and carbon monoxide in ambient air<sup>45</sup> lays down limit values to be met on a certain target date. Directive 2002/3/EC of the European Parliament and of the Council of 12 February 2002 relating to ozone in ambient air<sup>46</sup> lays down target values, long-term objectives, information and alert

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OJ L 296, 21.11.1996, p. 55. Directive as amended by Regulation (EC) No 1882/2003 (OJ L 284, 31.10.2003, p.1).

OJ L 163, 29.6.1999, p.41. Directive as amended by Decision 2001/744/EC (OJ L 278, 23.10.2001, p. 35).

<sup>&</sup>lt;sup>44</sup> OJ L 319, 4.12.2001, p.45.

<sup>&</sup>lt;sup>45</sup> OJ L 313, 13.12.2000, p.12.

OJ L 67, 9.3.2002, p.14.

thresholds which create certain obligations. Regular reporting by Member States is an integral element of those Directives, read in conjunction with Directive 96/62/EC and indispensable for checking compliance with those obligations.

- (5) Moreover, a number of items set out in Article 11 of Directive 96/62/EC with regard to the pollutants covered by Directives 1999/30/EC, 2002/69/EC and 2002/3/EC must be reported on an annual basis.
- (6) According to Directive 1999/30/EC, provisions on reporting under Council Directive 80/779/EEC on air quality limit values and guide values for sulphur dioxide and suspended particulates<sup>47</sup>, Council Directive 82/884/EEC of 3 December 1982 on a limit value for lead in the air<sup>48</sup> and Council Directive 85/203/EEC of 7 March 1982 on air quality standards for nitrogen dioxide<sup>49</sup> are repealed with effect from 19 July 2001, although the limit values under these Directives remain in force until 2005 for Directives 80/779/EEC and 82/884/EEC, and 2010 for Directive 85/203/EEC and reporting on exceedences of these limit values continues according to Article 9(6) of Directive 1999/30/EC.
- (7) In order to ensure that the required information is supplied in the correct format, Member States should be required to submit it on the basis of a standardised questionnaire.
- (8) The questionnaire laid down by Decision 2001/839/EC should be extended to cover also the annual reporting obligations resulting from Directives 2000/69/EC and 2002/3/EC, while at the same time introducing some amendments related to Directive 1999/30/EC, which are made for clarification and in order to ensure a better assessment of the reports.
- (9) Decision 2001/839/EC should be replaced in the interests of clarity.
- (10) The measures provided for in this Decision are in accordance with the opinion of the Committee instituted by Article 12 (2) of Directive 96/62/EC,

#### HAS ADOPTED THIS DECISION:

#### Article 1

Member States shall use the questionnaire set out in the Annex as a basis for forwarding the information to be provided on an annual basis in accordance with Articles 11(1) and 12(1) of Directive 96/62/EC and the following provisions:

- Articles 3(1), (3) and (4), 4(1), 5(1), (2), (4) and (5), 6, 7(1), (2) and (3), and 9(6) of Directive 1999/30/EC,
- Articles 3(1), 4, and 5(1), (2), (3) and (5) of Directive 2000/69/EC and
- Articles 3(1) and (2), 4(1) and (2), 5, 9 (1) and (3), and 10 (1)(a) and (2)(b) of Directive 2002/3/EC.

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<sup>&</sup>lt;sup>47</sup> OJ L 229, 30.8.1980, p.30.

<sup>&</sup>lt;sup>48</sup> OJ L 378, 31.12.1982, p.15.

OJ L 87, 27.3.1985, p.1.

Article 2

Decision 2001/839/EC is hereby repealed.

*Article 3* 

This Decision is addressed to the Member States.

Done at Brussels, 29 April 2004.

For the Commission
Margot WALLSTRÖM
Member of the Commission

## **ANNEX**

## Reporting Questionnaire

on

Council Directive 96/62/EC on ambient air quality assessment and management and Council Directive 1999/30/EC relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air as well as Directives 2000/69/EC relating to limit values for benzene and carbon monoxide in ambient air and 2002/3/EC relating to ozone in ambient air of the European Parliament and the Council

MEMBER STATE:
CONTACT ADDRESS:
REFERENCE YEAR:
COMPILATION DATE:

The following forms distinguish between items that are legally required to report and items that are voluntary to report for the Member State. Voluntary items are printed in italic.

Many of the forms below contain and indefinite number of rows or columns to be filled in. In the form description, the number of empty rows or columns to be filled in is then limited to three and a dashed borderline indicates that the form should be extended as needed.

In addition to the forms, which are to be filled in by the Member State, some tables are also provided. The tables provide information such as fixed codes that are not to be changed by the Member State.

#### List of forms

Form 1	Contact body and address
Form 2	Delimitation of zones and agglomerations
Form 3	Stations and measuring methods used for assessment under 1999/30/EC and $2000/69/EC$
Form 4	Stations used for assessment of ozone, including nitrogen dioxide and nitrogen oxides in relation to ozone
Form 5	Stations and measuring methods used for the assessment of recommended volatile organic compounds
Form 6	Stations and measurement methods used for the assessment of other ozone precursor substances
Form 7	Methods used to sample and measure $PM_{10}$ and $PM_{2,5}$ and ozone precursor substances: optional additional codes to be defined by the Member State
Form 8	List of zones and agglomerations where levels exceed or do not exceed limit values or limit values plus margin of tolerance
Form 9	List of zones and agglomerations where levels exceed or do not exceed target values or long term objectives for ozone
Form 10	List of zones and agglomerations where levels exceed or do not exceed upper assessment thresholds or lower assessment thresholds, including information on the application of supplementary assessment methods
Form 11	Individual exceedences of limit values and limit values plus the margin of tolerance
Form 12	Reasons for individual exceedences: optional additional codes to be defined by the Member State
Form 13	Individual exceedences of ozone thresholds
Form 14	Exceedence of ozone target values
Form 15	Annual statistics of ozone

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Form 16	Annual average concentrations of ozone precursor substances
Form 17	Monitoring data on 10 minutes mean SO <sub>2</sub> levels
Form 18	Monitoring data on 24hr mean PM <sub>2,5</sub> levels
Form 19	Tabular results of and methods used for supplementary assessment
Form 20	List of references to supplementary assessment methods referred to in Form 19
Form 21	Exceedence of limit values for SO <sub>2</sub> due to natural sources
Form 22	Natural SO <sub>2</sub> sources: optional additional codes to be defined by Member State
Form 23	Exceedence of limit values of PM <sub>10</sub> due to natural events
Form 24	Exceedence of limit values of PM <sub>10</sub> due to winter sanding
Form 25	Consultations on transboundary pollution
Form 26	Exceedences of limit values laid down in Directives 80/779/EEC, 82/884/EEC and 85/203/EEC
Form 27	Reasons for exceedences of limit values laid down in Directives 80/779/EEC 82/884/EEC and 85/203/EEC: optional additional codes to be defined by the Member State

#### List of tables

- Table 1 Methods used to sample and measure  $PM_{10}$  and  $PM_{2,5}$  and ozone precursor substances: standard codes
- Table 2 Reasons for individual exceedences: standard codes
- Table 3 Statistical parameters to be used in concentration maps
- Table 4 Natural SO<sub>2</sub> sources: standard codes
- Table 5 Natural events causing limit value exceedences for PM<sub>10</sub>: standard codes

### Form 1 Contact body and address

Name of the contact body	
Postal address	
Name of contact person	
Telephone of contact person	
Fax of contact person	
Email address of contact person	
Comments for clarification if needed	

#### Note to Form 1:

The Member State is asked to fill in the contact body, and if possible, the contact person at national level, that the Commission may approach on details regarding this questionnaire if needed.

Form 2 Delimitation of zones and agglomerations (96/62/EC Articles 5 and 11(1b))

	Zones				
Full zone name					
Zone code					
Pollutant(s), possibly separate protection targets, to which the zone applies					
Type (ag/nonag)					
Area (km²)					
Population					
			1		
Border coordinate pairs					
Border coordinate pairs					
Border coordinate pairs					

#### Notes to Form 2:

- (1) The Member State should give not only the zone name, but also a unique zone code.
- (2) The Member State should indicate the pollutant(s) to which the zone applies using the codes: 'S' for SO<sub>2</sub>, 'N' for NO<sub>2</sub>/NO<sub>x</sub>, 'P' for PM<sub>10</sub>, 'L' for lead, 'B' for benzene, 'C' for carbon monoxide and 'O' for ozone, separated by a semicolon, or 'A' if the zone applies to all these pollutants. If zones have been separately defined for health, ecosystem and vegetation protection, the Member State should use the following

- codes: 'SH' for SO<sub>2</sub> health protection, 'SE' for SO<sub>2</sub> ecosystem protection, 'NH' for NO<sub>2</sub> health protection, 'NV' for NO<sub>x</sub> vegetation protection.
- (3) It should be indicated whether the zone is an agglomeration (code: 'ag') or not (code: 'nonag').
- (4) Optionally, the Member States may add the area and population size of the zone for further processing of the data at European level.
- (5) For further processing, the Member State is requested to fill in the zone borders in a standard format (polygons, using the geographical coordinates according to ISO 6709: geographical longitude and latitude). The Member State is requested to provide separately a map of the zones (as an electronic file or on paper) to facilitate the correct interpretation of the zone data. The Member State must provide at least either the zone borders in Form 2 or a map.

Form 3 Stations and measuring methods used for assessment under 1999/30/EC (Annex IX) and 2000/69/EC (Annex VII)

EoI statio n code	Local station code	Zone code(s )	Use for Directive			/ Mea method	Directive suring code for nd PM <sub>2,5</sub>	facto equi	ection or or ation sed	Functio n of station			
			S O 2	$N \\ O_2$	$N \\ O_x$	Le ad	Benze ne	<i>C O</i>	PM <sub>10</sub>	PM <sub>2,5</sub>	$PM_{10}$	$PM_{2,5}$	

#### Notes to Form 3:

- (1) In Form 3 and other forms in this questionnaire, 'EoI station code' refers to the code that is used for the exchange of data under the Exchange of Information Decision 97/101/EC. 'Local station code' is the code used within the Member State or region.
- (2) The Member State is requested to identify in the third column the zone(s) applying to ozone in which the station is located. If more than one zone is concerned, the codes should be separated by a semicolon.
- (3) The Member State is requested to use the columns headed by 'SO<sub>2</sub>', 'NO<sub>2</sub>', 'NO<sub>3</sub>', 'Lead', 'Benzene' and 'CO' for indicating whether the measurement is used for assessment under Directive 1999/30/EC or 2000/69/EC respectively, ticking with 'y' if used and leaving the cell empty if not used. It should be noted that ticking NO<sub>3</sub> implies that the station is sited at a location where the limit value for vegetation applies. If the station is in the immediate vicinity of specific sources of lead as referred to in Annex IV to Directive 1999/30/EC, the Member State is requested to tick with 'SS' instead of 'y'.
- (4) The Member State should use the columns headed by 'PM<sub>10</sub>' and 'PM<sub>2,5</sub>' for indicating whether the measurement is used for assessment under Directive

1999/30/EC and indicate at the same time which measurement method is used. If the measurement is used for assessment under the Directive, the Member State should fill in the measuring method code (see Note 5); if the measurement is not used for assessment under the Directive, the cell should be left empty. For  $PM_{2,5}$  levels formal assessment under Article 6 of Directive 96/62/EC is not required.

- (5) The measurement method code for PM<sub>10</sub> and PM<sub>2,5</sub> can be indicated by one of the standard codes provided by this questionnaire (see Table 1) or a code defined by the Member State that refers to a separate list of methods described by the Member State (see Form 7). The description defined by the Member State may also be a reference to a separate document added to the questionnaire. If the measurement method has been changed during the year, the Member State is requested to fill in both method codes: first the method that was used for the longest time in the year, followed by the other one, separated by a semicolon.
- When the measurement method for PM<sub>10</sub> or PM<sub>2,5</sub> is not the reference method, respectively the provisional reference method, set out in Directive 1999/30/EC, Annex IX, the Member State is requested to fill in the correction factor by which the measured concentrations have been multiplied to obtain the concentrations reported in this questionnaire or to fill in the corresponding correction equation. If a correction equation has been applied, a free format can be used in which the measured concentration should be denoted by 'CM' and the reported concentration by 'CR', preferably using the format CR = f(CM). If the results of the method have been demonstrated to be equivalent without the application of a correction, the Member State is requested to indicate this by entering the value '1' for the correction factor or equation.
- (7) 'Function of station' indicates whether the station is sited at a location where (a) the limit values for health, the SO<sub>2</sub> limit value for ecosystems and the NO<sub>x</sub> limit value for vegetation apply (code 'HEV'), (b) only the limit values for health and the SO<sub>2</sub> limit value for ecosystems apply (code 'HE'), (c) only the limit value for health and the NO<sub>x</sub> limit value for vegetation apply (code 'HV') or (d) only the limit values for health apply (code 'H').

Form 4 Stations used for assessment of ozone, including nitrogen dioxide and nitrogen oxides in relation to ozone (2002/3/EC Annex III, IV, VI)

EoI station code	Local station code	Zone code	Type of station	Use in relation to Directive 2002/3/EC		
				$O_3$	$NO_2$	$NO_x$

#### Notes to Form 4:

- (1) The Member State is requested to identify in the third column the zone in which the station is located.
- (2) The Member State should use the columns headed by 'O<sub>3</sub>', 'NO<sub>2</sub>' and 'NO<sub>x</sub>' for indicating whether the measurement is used for assessment under Directive

2002/3/EC, ticking with 'y' if used and leaving the cell empty if not used. The column headed by 'NO<sub>2</sub>' indicates measurement as mentioned in 2002/3/EC, Article 9(1), the column headed by 'NO<sub>x</sub>' indicates measurement as mentioned in 2002/3/EC, Article 9(3).

(3) 'Type of station' is defined according to 2002/3/EC, Annex IV. The following codes should be used: 'U' for urban, 'S' for suburban, 'R' for rural and 'RB' for rural background.

Form 5 Stations and measurement methods used for the assessment of recommended volatile organic compounds (2002/3/EC Annex VI)

Stations				
EoI station code				
Local station code				
Zone code applying to ozone				
Ethane				
Ethylene				
Acetylene				
Propane				
Propene				
n-Butane				
i-Butane				
1-Butene				
trans-2-Butene				
cis-2-Butene				
1.3-Butadiene				
n-Pentane				
i-Pentane				
1-Pentene				
2-Pentene				
Isoprene				
n-Hexane				
i-Hexane				
n-Heptane				

n-Octane		
i-Octane		
Benzene		
Toluene		
Ethyl benzene		
m+p-Xylene		
o-Xylene		
1,2,4-Trimeth.benzene		
1,2,3-Trimeth.benzene		
1,3,5-Trimeth.benzene		
Formaldehyde		
Total non-methane hydrocarbons		

#### Notes to Form 5:

- (1) The Member State should indicate in Form 5 for each station and for each substance assessed under 2002/3/EC Article 9(3) the measurement method by one of the standard codes provided by this questionnaire (see Table 1) or a code defined by the Member State (Form 7).
- Whereas reporting obligations of ozone precursor substances must include "appropriate volatile organic compounds", the list presented in Form 5 is only a recommendation according to Annex VI of Directive 2002/3/EC.

# Form 6 Stations and measurement methods used for the assessment of other ozone precursor substances (2002/3/EC Annex VI)

	Stations		
EoI station code			
Local station code			
Zone code applying to ozone			

#### Note to Form 6:

In the leftmost column of Form 6 the Member State should indicate ozone precursor substances assessed under 2002/3/EC Article 9(3) other than those described in Form 5. The Member State should indicate in Form 6 for each station and each substance the measurement

method by one of the standard codes provided by this questionnaire (see Table 1) or a code defined by the Member State (Form 7). Note (2) of Form 5 applies for Form 6 accordingly.

Table 1 Methods used to sample and measure PM<sub>10</sub>, PM<sub>2,5</sub> and ozone precursor substances: standard codes <sup>1)</sup>

Method code	Description
MI	$PM_{10}$ or $PM_{2.5}$ : Beta-absorption
M2	$PM_{10}$ or $PM_{2.5}$ : Gravimetry for $PM_{10}$ and/or $PM_{2,5}$ – continuous measurement
M2dxxx	$PM_{10}$ or $PM_{2.5}$ : Gravimetry for $PM_{10}$ and/or $PM_{2.5}$ – random measurement; xxx should be the number of measured days. Example: random sampling on 180 days of the year is indicated by M2d180.
M3	$PM_{10}$ or $PM_{2.5}$ : Oscillating microbalance for $PM_{10}$ and/or $PM_{2.5}$
M4	Lumped sum NMHC: automated, semi-continuous monitoring, NMHC calculated from Total HC minus methane; FID
M5	Lumped sum NMHC: automated semi-continuous monitoring, after chromatographic separation of NMHC from methane; FID
M6	Individual VOC: automated sampling and on line analysis; cryogenic sample pre-concentration, GC/FID (MS) detection
M7	Individual VOC: whole air canister sampling; off line analysis by GC/FID (MS)
M8	Individual VOC: active solid adsorbent sampling; off line analysis by GC/FID (MS) after solvent or thermal desorption
M9	Individual VOC: diffusive solid adsorbent sampling; off line analysis by GC/FID(MS) after solvent or thermal desorption
M10subcode <sup>2)</sup>	Formaldehyde: sampling with DNPH; off line analysis of hydrazones by HPLC with UV detection (360 nm).
M11subcode <sup>2)</sup>	Formaldehyde: sampling with HMP; off line analysis of oxazolidine by GC-NPD
M12subcode <sup>2)</sup>	Formaldehyde: sampling withy bisulfite and chromotropic acid; off line analysis by spectrometry (580 nm)

<sup>&</sup>lt;sup>1)</sup> DNPH: Dinitrophenylhydrazine; FID: Flame Ionisation Detection; GC: Gas Chromatography; HC: hydrocarbons; HMP: Hydroxy-methyl-piperidine; HPLC: High Pressure Liquid Chromatography; MS: Mass Spectrometer; NMHC: Non-methane hydrocarbons; NPD: Nitrogen and Phosphorus Detector; UV: Ultra Violet; VOC: Volatile Organic Compounds.

Form 7 Methods used to sample and measure PM<sub>10</sub>, PM<sub>2,5</sub> and ozone precursor substances: optional additional codes to be defined by the Member State (1999/30/EC Annex IX and 2002/3/EC Annex VI)

<sup>&</sup>lt;sup>2)</sup> For sampling with impinger: use subcode 'IM'; active sampling on sorbent: subcode 'AS'; diffusive sampling: subcode 'DI'. Example: 'M10AS'.

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Method code Description

EN

# Form 8 List of zones and agglomerations where levels exceed or do not exceed limit values (LV) or limit values plus margin of tolerance (LV + MOT) (96/62/EC Articles 8, 9 and 11, 1999/30/EC Annexes I, II, III and IV, 2000/69/EC Annexes I and II)

# - Form 8a List of zones in relation to limit value exceedences for SO<sub>2</sub>

Zone code	LV for health (1hr mean)			LV for health (24hr mean)		LV for ecosystems (annual mean)		LV for ecosystems (winter mean)	
	>LV + MOT	≤LV + MOT; >LV	≤LV	>LV	≤LV	>LV	≤LV	>LV	≤LV
			]						

## - Form 8b List of zones in relation to limit value exceedences for NO<sub>2</sub>/NOx

Zone code	LV for health (1hr mean)			LV for h	nealth (annual mean)	LV for vegetation		
	>LV + MOT	≤LV + MOT; >LV	≤LV	>LV + MOT	≤LV + MOT; >LV	≤LV	>LV	≤LV

# - Form 8c List of zones in relation to limit value exceedences for $PM_{\rm 10}$

Zone code	LV (24hr mean) Stage 1		LV (annual mean) Stage 1		LV (24hr mean) Stage 2		LV (annual mean) Stage 2				
	>LV + MOT	≤LV + MOT; >LV	≤LV	>LV + MOT	≤LV + MOT; >LV	≤LV	>LV	≤LV	>LV + MOT	≤LV + MOT; >LV	≤LV

## - Form 8d List of zones in relation to limit value exceedences for lead

Zone code		LV							
	>LV + MOT	≤LV + MOT; >LV	≤LV	SS					

## - Form 8e List of zones in relation to limit value exceedences for benzene

Zone code	LV								
	>LV + MOT	$\leq$ LV + MOT; >LV	≤LV	Art 3(2)					

## - Form 8f List of zones in relation to limit value for carbon monoxide

Zone code	LV							
	>LV + MOT	≤LV + MOT; >LV	≤LV					

#### Notes to Form 8:

(1) The column headings have the following meaning:

>LV + MOT: above the limit value plus the margin of tolerance;

≤LV + MOT; >LV: below or equal to the limit value plus the margin of tolerance but

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above the limit value;

≤LV: below or equal to the limit value;

>LV: above the limit value;

SS: due to specific sources, see Note 7.

Art 3(2) extension period granted, see Note 8.

- (2) '>LV + MOT' should be read as '>LV' when the margin of tolerance has decreased to 0 %. In that case the column headed by '≤LV + MOT; >LV' should not be used.
- (3) If the column heading describes the status of the zone, tick with 'y'.
- (4) If exceedence has been concluded from model calculations solely, tick with 'm' instead of 'y'.
- (5) For thresholds for ecosystems and vegetation, tick only when exceedence occurred in areas where these limit values apply. For zones in which no areas exist where these limit values apply, tick column '\leq LV' by 'n'.
- (6) The winter mean is defined as the period from 1 October of the year preceding the reference year to 31 March of the reference year.
- (7) If the exceedence status indicated in Form 8d is solely due to exceedence in an area in the immediate vicinity of specific sources designated according to Annex IV to Directive 1999/30/EC, the Member State is requested to indicate this by ticking column 'SS' by 'y'.

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(8) In Form 8e, 'LV' refers to the limit value specified in Directive 2000/69/EC Annex I. For zones for which the Commission has granted an extension period for benzene according to Article 3(2) to Directive 2000/69/EC, the Member State is requested to indicate this by ticking column 'Art3(2)' by 'y'.

Form 9 List of zones and agglomerations where levels exceed or do not exceed target values or long term objectives for ozone (2002/3/EC, Annex I)

Zone code	7	Thresholds for healt	h	Thresholds for vegetation			
Zone code	>TV	≤TV;>LTO	≤LTO	>TV	≤TV;>LTO	≤LTO	

Notes to Form 9:

The column headings have the following meaning:

>TV: above the target value for ozone;

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≤TV; >LTO: below or equal to the target value but above the long term objective

for ozone;

≤LTO: below or equal to the long term objective for ozone.

- (1) If the column heading describes the status of the zone, tick with 'y'.
- (2) If exceedence has been concluded from model calculations solely, tick with 'm' instead of 'y'.
- (3) The status is to be assessed over 3 years for the health target value and over 5 years for the vegetation target value.

Form 10 List of zones and agglomerations where levels exceed or do not exceed upper assessment thresholds (UAT) or lower assessment thresholds (LAT), including information on the application of supplementary assessment methods (96/62/EC Article 6, 1999/30/EC Article 7(3) and Annex V, 2000/69/EC Article 5(3) and Annex III, 2002/3/EC Article 9(1) and Annex VII)

- Form 10a List of zones in relation to assessment threshold exceedences and supplementary assessment for SO<sub>2</sub>

Zone code		l LAT related to he (24hr mean)	ealth LV	UAT and LAT related to ecosystems LV (winter mean)			
	>UAT	≤UAT; >LAT	≤LAT	>UAT	≤UAT; >LAT	≤LAT	

- Form 10b List of zones in relation to assessment threshold exceedences and supplementary assessment for NO<sub>2</sub>/NO<sub>x</sub>

71.	UAT and LAT related to health LV (1hr mean)				AT related to annual mean,		UAT and LAT related to vegetation LV			
Zone code	>UAT	≤UAT; >LAT	≤LAT	>UAT	≤UAT; >LAT	≤LAT	>UAT	<i>≤UAT;</i> > <i>LAT</i>	≤LAT	SA

# - Form 10c List of zones in relation to assessment threshold exceedences and supplementary assessment for $PM_{10}$

Zone code	UAT a	and LAT (24hr n	nean)	UAT and LAT (annual mean)			54
	>UAT	≤UAT; >LAT	≤LAT	>UAT	≤UAT; >LAT	≤LAT	SA

# - Form 10d List of zones in relation to assessment threshold exceedences and supplementary assessment for lead

7		G.4		
Zone code	>UAT	≤UAT; >LAT	≤LAT	SA .

# - Form 10e List of zones in relation to assessment threshold exceedences and supplementary assessment for benzene

7		g 4		
Zone code	>UAT	≤UAT; >LAT	≤LAT	SA

# - Form 10f List of zones in relation to assessment threshold exceedences and supplementary assessment for carbon monoxide

7		g 4		
Zone code	>UAT	≤UAT; >LAT	≤LAT	SA

# - Form 10g List of zones in relation to supplementary assessment for ozone

Zone code	SA

Notes to Form 10:

(1) The column headings have the following meaning:

>UAT: above the upper assessment threshold;

≤UAT; >LAT: below or equal to upper assessment threshold, but above the lower

assessment threshold;

≤LAT: below or equal to the lower assessment threshold;

SA: supplementary assessment, see Note 6.

- (2) If the column heading describes the status of the zone, tick with 'y'.
- (3) If exceedence has been concluded from model calculations solely, tick with 'm' instead of 'y'.
- (4) For thresholds for ecosystems, tick only when exceedence occurred in areas where the limit values for ecosystems apply.
- (5) Exceedence of UAT and LAT is judged on the basis of the reference year and the preceding four years in accordance with the specification in Annex V(II) of Directives 1999/30/EC and Annex III(II) of 2000/69/EC respectively. ity

(6) The Member State is requested to indicate in the column 'SA' whether information from fixed measuring stations has been supplemented by information from other sources as referred to in Article 7(3) of Directive 1999/30/EC, Article 5(3) of Directive 2000/69/EC and Article 9(1) of Directive 2002/3/EC.

# Form 11 Individual exceedences of limit values and limit values plus margin of tolerance (MOT) (96/62/EC Article 11(1) (a) (i) and (ii), 1999/30/EC Annexes I, II, IV and V and 2000/69/EC Annexes I and II)

## - Form 11a Exceedence of SO<sub>2</sub> limit value plus MOT for health (1hr mean)

Zone code	EoI station code	Month	Day of month	Hour	Level (µg/m³)	Reason code(s)

## - Form 11b Exceedence of SO<sub>2</sub> limit value for health (24hr mean)

Zone code	EoI station code	Month	Day of month	Level (µg/m³)	Reason code(s)

- Form 11c Exceedence of SO<sub>2</sub> limit value for ecosystems (annual mean)

Zone code	EoI station code	Level (µg/m³)	Reason code(s)

- Form 11d Exceedence of SO<sub>2</sub> limit value for ecosystems (winter mean)

Zone code	EoI station code	Level (µg/m³)	Reason code(s)

- Form 11e Exceedence of NO<sub>2</sub> limit value plus MOT for health (1hr mean)

Zone code	EoI station code	Month	Day of month	Hour	Level (µg/m³)	Reason code(s)

# - Form 11f Exceedence of NO<sub>2</sub> limit value plus MOT for health (annual mean)

Zone code	EoI station code	Level (µg/m³)	Reason code(s)

# - Form 11g Exceedence of $NO_x$ limit value for vegetation

Zone code	EoI station code	Level (µg/m³)	Reason code(s)

# - Form 11h Exceedence of PM<sub>10</sub> limit value plus MOT (stage 1; 24hr mean)

Zone code	EoI station code	Month	Day of month	Level (μg/m³)	Reason code(s)

# - Form 11i Exceedence of PM<sub>10</sub> limit value plus MOT (stage 1; annual mean)

Zone code	EoI station code	Level (µg/m³)	Reason code(s)

# - Form 11j Exceedence of lead limit value plus MOT

Zone code	EoI station code	Level (µg/m³)	Reason code(s)

# - Form 11k Exceedence of benzene limit value plus MOT

Zone code	EoI station code	Level (µg/m³)	Reason code(s)	Article 3(2)

## - Form 111 Exceedence of carbon monoxide limit value plus MOT

Zone code	EoI station code	Month	Day of month	Level (µg/m³)	Reason code(s)

#### Notes to Form 11:

- (1) Identifying the station by filling in the EoI station code is not mandatory, but highly recommended.
- (2) The phrase 'limit value plus MOT' should be read as 'limit value' when the margin of tolerance has decreased to 0%.
- (3) 'Month' and 'Day of month' should be indicated by its number (1-12 and 1-31 respectively). 'Hour' should be indicated as '1' for the hour between 00:00h and 01:00h etc.
- (4) All exceedences of the limit value plus the margin of tolerance at a station are reported if the total number of exceedences is above the allowed number. If the total number of exceedences at a station is lower than or equal to the allowed number, no exceedences are reported.
- (5) The reason of exceedence can be indicated by one or several standard codes provided by this questionnaire (see Table 2) or a code defined by the Member State that refers to a separate list of reasons described by the Member State (Form 12). If more than one reason is indicated, the codes should be separated by a semicolon. The description given by the Member State could also be a reference to a separate document added to the questionnaire.
- (6) For exceedences in zones for which the Commission has, according to Directive 2000/69/EC Article 3(2), granted a time-limited extension, the Member State is requested to enter 'y' in the column headed by 'Article 3(2)'.
- (7) If no exceedences above the number of allowed exceedences have been observed, the Member State is requested to enter 'No exceedences' in the left cell of the first row.

# Table 2 Reasons for individual exceedences: standard codes

Reason code	Description
SI	Heavily trafficked urban centre
S2	Proximity to a major road
S3	Local industry including power production
S4	Quarrying or mining activities
S5	Domestic heating
S6	Accidental emission from industrial source
S7	Accidental emission from non-industrial source
S8	Natural source(s) or natural event(s)
S9	Winter sanding of roads
S10	Transport of air pollution originating from sources outside the Member State
S11	Local petrol station
S12	Parking facility
S13	Benzene storage

# Form 12 Reasons for individual exceedences: optional additional codes to be defined by the Member State (96/62/EC Article 11(1) (a) (i) and (ii)) and 1999/30/EC Annexes I, II, IV and V, 2000/69/EC Annexes I and II)

Reason code	Description

# Form 13 Individual exceedences of ozone thresholds (2002/3/EC, Article 10(2b) and Annex III)

### - Form 13a Exceedence of ozone information threshold value

Zone code	EoI station code	Month	Day of month	Maximum 1-hour mean ozone concentration (μg/m³) during exceedence period	Reason code(s)	Starting time of the exceedence period	Total number of exceedence hours	1-hour mean NO <sub>2</sub> concentration (μg/m³) during maximum ozone concentration

#### - Form 13b Exceedence of ozone alert threshold value

Zone	EoI station code	Month	Day of month	Maximum 1-hour mean ozone concentration (μg/m³) during exceedence period	Reason code(s)	Starting time of the exceedence period	Total number of exceedence hours	1-hour mean NO <sub>2</sub> concentration (μg/m³) during maximum ozone concentration

### - Form 13c Exceedence of ozone long term objective for health protection

Zone code	EoI station code	Month	Day of month	Daily maximum 8-hour mean concentration (µg/m³)	Reason code(s)

## Notes to Form 13:

- (1) For 'Reason code(s)' see Note 5 to Form 11.
- (2) 13a and 13b: An exceedence period is a continuous period on a single calendar day during which a threshold was continuously exceeded. A period cannot include hours of more than a single calendar day. If more than one exceedence period occurs on a calendar day, each period must be reported separately.
- (3) The requirement to report NO2 measurements is restricted to a minimum of 50% of the O3 sampling point (Article 9(1) of 2003/3/EC)

# Form 14 Exceedence of ozone target values (2002/3/EC, Article 10(2b) and Annex III)

#### - Form 14a Stations where the ozone target value for human health is exceeded

Zone code	EoI station code	Number of exceedence days per calendar year averaged over three years	If a full and consecutive set of data of 3 year was not used:calendar year(s) taken into account

# - Form 14b Stations where the ozone target value for vegetation is exceeded

Zone code	EoI station code	AOT40 (May-July) (µg/m³) averaged over five years  If a full and consecutive set of data of 5 year was years taken into account (at least 3	

#### Notes to Form 14:

- (1) The data should be consistent with the requirements in Directive 2002/3/EC, Annex I(II), Footnotes b and c. If the three or five year averages could not be determined on the basis of a full and consecutive set of annual data, each year taken into account in the calculation should be indicated in the rightmost column, separated by a semicolon from other years.
- (2) Form 14a: All exceedences of the target value at a station are reported if the total number of exceedences is above the allowed number. If the total number of exceedences at a station is lower than or equal to the allowed number, no exceedences are reported.

# Form 15 Annual statistics of ozone (2002/3/EC, Article 10(2b) and Annex III)

Zone code	EoI station code	AOT40 for vegetation protection (µg/m³.h)		АОТ	40 for forest protection (μg/m³.h)	Annual average
		Value	Number of valid data	Value	Number of valid data	

Note to Form 15:

The number of valid data for AOT40 refers to the hourly data available in the relevant period (for vegetation protection between 8:00 and 20:00 from May to July, maximum 1104 hours; for forest protection between 8:00 and 20:00 from April-September, maximum 2196 hours).

# Form 16 Annual average concentrations of ozone precursor substances (2002/3/EC Article 10(2b) and Annex VI)

# - Form 16a Annual average concentrations of recommended volatile organic compounds

	Stations						
EoI station code							
Ethane							
Ethylene							
Acetylene							
Propane							
Propene							
n-Butane							
i-Butane							
1-Butene							
trans-2-Butene							
cis-2-Butene							
1.3-Butadiene							
n-Pentane							
i-Pentane							
1-Pentene							
2-Pentene							
Isoprene							
n-Hexane							
i-Hexane							
n-Heptane							
n-Octane							
i-Octane							
Benzene							
Toluene							
Ethyl benzene							

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m+p-Xylene		
o-Xylene		
1,2,4-Trimeth.benzene		
1,2,3-Trimeth.benzene		
1,3,5-Trimeth.benzene		
Formaldehyde		
Total non-methane hydrocarbons		

## - Form 16b Annual average concentrations of other ozone precursor substances

	Stations
EoI station code	

#### Notes to Form 16:

- (1) In the first line of Form 16a the Member State should report the EoI station codes and in the following lines the annual average concentration of ozone precursor substances assessed under Directive 2002/3/EC Article 9(3).
- (2) For ozone precursor substances other than those described in Form 16a and assessed under Directive 2002/3/EC Article 9(3), the Member State should fill in Form 16b following the structure of Form 16a, indicating these other substances in the first column.
- (3) Whereas reporting obligations of ozone precursor substances must include "appropriate volatile organic compounds", the list presented in Form 16a is only a recommendation according to Annex VI of Directive 2002/3/EC.
- (4) Concentrations that have been reported under the Exchange of Information Decision 97/101/EC should not be reported in Form 16.

Form 17 Monitoring data on 10 minutes mean SO<sub>2</sub> levels (1999/30/EC Article 3(3))

EoI station code	averaged over 10 minutes which have		The number of the days referred to in the previous column, on which hourly concentrations of sulphur	The maximum concentration averaged over 10 minutes recorded	the ma	n which eximum ntration urred
	exceeded 500 μg/m <sup>3</sup>	exceedences occurred	dioxide simultaneously exceeded 350 μg/m <sup>3</sup>	(μg/m³)	Month	Day of month

Note to Form 17:

Where it is not practicable for a Member State to record data on concentrations of sulphur dioxide averaged over 10 minutes this form does not have to be completed.

Form 18 Monitoring data on 24hr mean PM<sub>2,5</sub> levels (1999/30/EC Article 5(2))

EoI station code	Arithmetic mean (µg/m³)	Median (μg/m³)	98 percentile (µg/m³)	Maximum concentration (µg/m³)

# Form 19 Tabular results of and methods used for supplementary assessment (1999/30/EC Article 7(3) and Annex VIII(II), 2000/69/EC Article 5(3) and Annex VII(II) and 2002/3/EC Article 9(1) and Annex VII(II))

# - Form 19a Results of and methods used for supplementary assessment for SO<sub>2</sub>

Zone code	Above LV for health (1hr mean)					bove LV for	health (24h)	r mean)			e LV for ed (annual m	cosystems ean)			e LV for ed (winter me	-
	Area Population exposed				Area Population exposed			Area Ecosystem area exposed			Area		Ecosystem area exposed			
	km <sup>2</sup> Method		Number	Method	$km^2$	Method	Number	Method	$km^2$	Method	km <sup>2</sup>	Method	$km^2$	Method	$km^2$	Method
							_									

# - Form 19b Results of and methods used for supplementary assessment for NO<sub>2</sub>/NO<sub>x</sub>

2	one code		Ai	bove	LV for healt	th (1hr mean)		Above LV for health (annual mean)							Above LV for vegetation				
		Area Road length			Population	n exposed		Area	Ro	oad length	Population	n exposed		Area	Vegeta	tion area exposed			
		km <sup>2</sup> Method		km	Method	Number	Method	$km^2$	Method	km	Method	Number	Method	$km^2$	Method	$km^2$	Method		

### - Form 19c.1 Results of and methods used for supplementary assessment for $PM_{10}$ (Stage 1)

2	Zone code		Above LV (24hr mean)						Above LV (annual mean)					
		Area		Road length		Populatio	Population exposed		Area		Coad length	Population exposed		
		$km^2$	Method	km	Method	Number	Method	$km^2$	Method	km	Method	Number	Method	

### - Form 19c.2 Results of and methods used for supplementary assessment for $PM_{10}$ (Stage 2)

Zone code			ove LV (24hr me	ean)		Above LV (annual mean)						
		Area	Road length		Population exposed		Area		Road length		Population exposed	
	$km^2$	Method	km	Method	Number	Method	$km^2$	Method	km	Method	Number	Method

### - Form 19d Results of and methods used for supplementary assessment for lead

Zone code			Above LV						
		Area	R	oad length	Population exposed				
	$km^2$	Method	km	Method	Number	Method			

### - Form 19e Results of and methods used for supplementary assessment for benzene

Zone code			Above LV							
		Area	R	oad length	Population exposed					
	km <sup>2</sup>	Method	km	Method	Number	Method				

#### - Form 19f Results of and methods used for supplementary assessment for carbon monoxide

Zone code				Above LV			
		Area	R	oad length	Population exposed		
	$km^2$	Method	km	Method	Number	Method	

#### - Form 19g Results of and methods used for supplementary assessment for ozone

Zone code	Above TV for health			Above LTO for health			Above TV for ecosystems					Above LTO for ecosystems				
	Area		Population exposed		Area Population expose		n exposed	Area Ecos		Ecosyst	Ecosystem area exposed		Area	Ecosystem area exposed		
	$km^2$	Method	Number	Method	$km^2$	Method	Number	Method	$km^2$	Method	km <sup>2</sup>	Method	$km^2$	Method	km²	Method

Notes to Form 19:

(1) 'Method' is a code defined by the Member State that refers to a separate list of references (Form 20) on publications or reports in which the supplementary method is documented. Form 20 is part of the report to the Commission; the publications or reports referred to are not to be sent to the Commission.

- (2) Form 19 can be complemented by maps showing concentration distributions. It is recommended that the Member State, if possible, compiles maps showing concentration distributions within each zone and agglomeration. It is recommended to provide concentration iso-lines of the parameters in which the air quality thresholds are expressed (see Table 3) using iso-lines at intervals of 10% of the threshold.
- (3) The information should refer to the appropriate averaging period for the long term objectives (1 year), the target value for health (3 years) and the target value for vegetation (5 years).

### Table 3 Statistical parameters to be used in concentration maps

Pollutant	Parameters
$SO_2$	99.7 percentile of 1h means; 98.9 percentile of 24h means; annual mean; winter mean
$NO_2$	99.8 percentile of 1h means
$NO_2/NO_x$	Annual mean
$PM_{10}$	90.1 percentile of 24h means (stage 1); 97.8 percentile of 24h means (stage 2)
$PM_{10}$ and $PM_{2,5}$	Annual mean
Lead	Annual mean
Benzene	Annual mean
Carbon monoxide	Maximum daily 8-hour mean
Ozone	92.9 percentile of daily 8-hour means averaged over the last 3 years; maximum daily 8-hour mean in reference year; AOT40 (May to July) averaged over the last 5 years

## Form 20 List of references to supplementary assessment methods referred to in Form 19 (1999/30/EC Article 7(3) and Annex VIII(II))

Method	Full reference

### Form 21 Exceedence of limit values of SO<sub>2</sub> due to natural sources (1999/30/EC Article 3(4))

### - Form 21a SO<sub>2</sub> limit value for health (1hr mean)

Zone	EoI station code	Number of exceedences measured	Natural source code(s)	Estimated number of exceedences after subtraction of natural contribution	Reference to justification

### - Form 21b SO<sub>2</sub> limit value for health (24hr mean)

2	Zone	EoI station code	Number of exceedences measured	Natural source code(s)	Estimated number of exceedences after subtraction of natural contribution	Reference to justification

#### - Form 21c SO<sub>2</sub> limit value for ecosystems (annual mean)

Zone	EoI station code	Annual mean concentration	Natural source code(s)	Estimated annual mean concentration after subtraction of natural contribution	Reference to justification

#### - Form 21d SO<sub>2</sub> limit value for ecosystems (winter mean)

Zone	EoI station code	Winter mean concentration	Natural source code(s)	Estimated annual mean concentration after subtraction of natural contribution	Reference to justification

Note to Form 21:

The natural source can be indicated by one or several standard codes provided by this questionnaire (see Table 4) or a code defined by the Member State that refers to a separate list of natural sources described by the Member State (Form 22).

Table 4 Natural SO<sub>2</sub> sources: standard codes

Natural source code	Description					
AI	Volcanism inside the Member State					
A2	Volcanism outside the Member State					
В	Coastal wetlands					
CI	Natural fires inside the Member State					
C2	Natural fires outside the Member State					

## Form 22 Natural SO<sub>2</sub> sources: optional additional codes to be defined by Member State (1999/30/EC Article 3(4))

Natural source code	Description

## Form 23 Exceedence of limit values of PM<sub>10</sub> due to natural events (1999/30/EC Article 5(4))

## - Form 23a Contribution of natural events to exceedence of the $PM_{10}$ limit value (stage 1; 24hr mean)

Zone	EoI station code	Number of exceedences measured	Natural event code(s)	Estimated number of exceedences after subtraction of natural contribution	Reference to justification

## - Form 23b Contribution of natural events to exceedence of the PM<sub>10</sub> limit value (stage 1; annual mean)

Zone	EoI station code	Annual mean concentration	Natural event code(s)	Estimated annual mean concentration after subtraction of natural contribution	Reference to justification

Note to Form 23:

The natural event can be indicated by one or several standard codes provided by this questionnaire (see Table 5).

Table 5 Natural events causing limit value exceedences for  $PM_{10}$ : standard codes

Natural event code	Description
A1	Volcanic eruption inside the Member State
A2	Volcanic eruption outside the Member State
B1	Seismic activity inside the Member State
B2	Seismic activity outside the Member State
CI	Geothermal activity inside the Member State
C2	Geothermal activity outside the Member State
D1	Wild-land fire inside the Member State
D2	Wild-land fire outside the Member State
E1	High wind event inside the Member State
E2	High wind event outside the Member State
F1	Atmospheric resuspension inside the Member State
F2	Atmospheric resuspension outside the Member State
G1	Transport of natural particles from dry regions inside the Member State
G2	Transport of natural particles from dry regions outside the Member State

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## Form 24 Exceedence of limit values of PM<sub>10</sub> due to winter sanding (1999/30/EC Article 5(5))

## - Form 24a Contribution of winter sanding to exceedence of the $PM_{10}$ limit value (stage 1; 24hr mean)

Zone	EoI station code	Number of exceedences measured	Estimated number of exceedences after subtraction of winter sanding contribution	Reference to justification

# - Form 24b Contribution of winter sanding to exceedence of the PM<sub>10</sub> limit value (stage 1; annual mean)

Zone	EoI station code	Annual mean	Estimated annual mean concentration after subtraction of winter sanding contribution	Reference to justification

#### Form 25 Consultations on transboundary pollution (96/62/EC Article 8(6))

#### - Form 25a General

Has the Member State consulted other Member States on significant air pollution originating in other Member States? Please tick with 'y' if yes or 'n' if no:	(y or n)
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## - Form 25b Specification per Member State

If yes, please:	A T	B E	C Y	C Z	D E	D K	E E	E S	FI	F R	G R	H U	IE	IT	L T	L U	L V	M T	N L	P L	P T	S E	S K	SI	U K
- tick the MS or country concerned																									
- tick if the agenda(s) of the consultations has/have been added to this report																									
- tick if the minutes of the consultations have been added to this report																									

Note to Form 25b:

Tick only if yes, using 'y'.

#### Form 26 Exceedences of limit values laid down in Directives 80/779/EEC, 82/884/EEC and 85/203/EEC to be reported under 1999/30/EC Article 9(6))

Pollutant	Limit value exceeded	Monitoring method used	EoI station code	Measured value (μg/m³)	Reason code(s)	Measures taken	

Notes to Form 26:

- The numerical value of the limit value exceeded should be indicated in the second column. (1)
- For SO<sub>2</sub> and suspended particulates it should be indicated whether the black-smoke or the (2) gravimetric method was used.
- (3) Identifying the station is not mandatory, but highly recommended.
- (4) The reason for exceedence can be indicated by one or several standard codes provided by this questionnaire (see Table 5) or a code defined by the Member State that refers to a separate list of reasons described by the Member State (Form 27). If more than one reason is indicated, the codes should be separated by a semicolon. The description given by the Member State could also be a reference to a separate document added to the questionnaire.

#### Form 27 Reasons for exceedences of limit values laid down in Directives 80/779/EEC, 82/884/EEC and 85/203/EEC: optional additional codes to be defined by the Member State (1999/30/EC Article 9(6))

Reason code	Description