

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Parliament and of the Council (notified under document number C(2004) 1714) (Text with EEA relevance) (2004/461/EC) (repealed)

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## 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 an 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.

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#### Form 1 Contact body and address

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

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 II(1b))

<b>Zones</b>			
<b>Full zone name</b>			
<b>Zone code</b>			
<b>Pollutant(s), possibly separate protection targets, to which the zone applies</b>			
<b>Type (ag/nonag)</b>			
<b>Area (km<sup>2</sup>)</b>			
<b>Population</b>			
<b>Border coordinate pairs</b>			
<b>Border coordinate pairs</b>			
<b>Border coordinate pairs</b>			

## 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

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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 station code	Local station code	Zone code(s)	Use for Directive					Use for Directive / Measuring method code for PM <sub>10</sub> and PM <sub>2,5</sub>		Correction factor or equation used		Function of station
			SO <sub>2</sub>	NO <sub>2</sub>	NO <sub>x</sub>	Lead	Benzene	CO	PM <sub>10</sub>	PM <sub>2,5</sub>	PM <sub>10</sub>	

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>x</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>x</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<sub>2,5</sub> 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.

- (6) 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 <sub>3</sub>	NO <sub>2</sub>	NO <sub>x</sub>

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)**

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	Stations		
EoI station code			
<i>Local station code</i>			
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).
- (2) 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)**

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	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  $PM_{10}$ ,  $PM_{2,5}$   
AND OZONE PRECURSOR SUBSTANCES: STANDARD CODES<sup>0</sup>

<i>Method code</i>	<i>Description</i>
<i>M1</i>	<i>PM<sub>10</sub> or PM<sub>2,5</sub>: Beta-absorption</i>
<i>M2</i>	<i>PM<sub>10</sub> or PM<sub>2,5</sub>: Gravimetry for PM<sub>10</sub> and/or PM<sub>2,5</sub> - continuous measurement</i>
<i>M2dxxx</i>	<i>PM<sub>10</sub> or PM<sub>2,5</sub>: Gravimetry for PM<sub>10</sub> and/or PM<sub>2,5</sub> — random measurement; xxx should be the number of measured days. Example: random sampling on 180 days of the year is indicated by M2dl80.</i>
<i>M3</i>	<i>PM<sub>10</sub> or PM<sub>2,5</sub>: Oscillating microbalance for PM<sub>10</sub> and/or PM<sub>2,5</sub></i>
<i>M4</i>	<i>Lumped sum NMHC: automated, semi-continuous monitoring, NMHC calculated from Total HC minus methane; FID</i>
<i>M5</i>	<i>Lumped sum NMHC: automated semi-continuous monitoring, after</i>
<b>a</b>	DNP: 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.
<b>b</b>	For sampling with impinger: use subcode 'IM'; active sampling on sorbent: subcode 'AS'; diffusive sampling: subcode 'DI' Example: 'M10AS'.

	<i>chromatographic separation of NMHC from methane; FID</i>
<i>M6</i>	<i>Individual VOC: automated sampling and on line analysis; cryogenic sample pre-concentration, GC/FID (MS) detection</i>
<i>M7</i>	<i>Individual VOC: whole air canister sampling; offline analysis by GC/FID (MS)</i>
<i>M8</i>	<i>Individual VOC: active solid adsorbent sampling; offline analysis by GC/FID (MS) after solvent or thermal desorption</i>
<i>M9</i>	<i>Individual VOC: diffusive solid adsorbent sampling; offline analysis by GC/FID (MS) after solvent or thermal desorption</i>
<i>M10subcode<sup>b</sup></i>	<i>Formaldehyde: sampling with DNPH; off line analysis of hydrazones by HPLC with UV detection (360 nm).</i>
<i>M11subcode<sup>b</sup></i>	<i>Formaldehyde: sampling with HMP; offline analysis of oxazolidine by GC-NPD</i>
<i>M12subcode<sup>b</sup></i>	<i>Formaldehyde: sampling with bisulfite and chromotropic acid; off line analysis by spectrometry (580 nm)</i>

**a** 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.

**b** For sampling with impinger: use subcode 'IM'; active sampling on sorbent: subcode 'AS'; diffusive sampling: subcode 'DI' Example: 'M10AS'.

**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)**

<i>Method code</i>	<i>Description</i>

**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>**

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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>/NO<sub>x</sub>**

Zone code	LV for health (1hr mean)			LV for health (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<sub>10</sub>**

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	≤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 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 ' ≤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.

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- (7) If the exceedance status indicated in Form 8d is solely due to exceedance 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'.
- (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	Thresholds for health			Thresholds for vegetation		
	>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;  
 ≤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 exceedance 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	UAT and LAT related to health LV (24hr mean)			UAT and LAT related to ecosystems LV (winter mean)			SA
	>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>**

Zone code	UAT and LAT related to health LV (1hr mean)			UAT and LAT related to health LV (annual mean)			UAT and LAT related to vegetation LV			SA
	>UAT	≤UAT; >LAT	≤LAT	>UAT	≤UAT; >LAT	≤LAT	>UAT	≤UAT; >LAT	≤LAT	

**Form 10c List of zones in relation to assessment threshold exceedences and supplementary assessment for PM<sub>10</sub>**

Zone code	UAT and LAT (24hr mean)			UAT and LAT (annual mean)			SA
	>UAT	≤UAT; >LAT	≤LAT	>UAT	≤UAT; >LAT	≤LAT	

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

Zone code	UAT and LAT			SA
	>UAT	≤UAT; >LAT	≤LAT	

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

Zone code	UAT and LAT			SA
	>UAT	≤UAT; >LAT	≤LAT	

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

Zone code	UAT and LAT			SA
	>UAT	≤UAT; >LAT	≤LAT	

**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	Eol station code	Month	Day of month	Hour	Level ( $\mu\text{g}/\text{m}^3$ )	Reason code(s)

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

Zone code	Eol station code	Month	Day of month	Level ( $\mu\text{g}/\text{m}^3$ )	Reason code(s)

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

Zone code	Eol station code	Level ( $\mu\text{g}/\text{m}^3$ )	Reason code(s)

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

Zone code	EoI station code	Level (µg/m <sup>3</sup> )	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/m <sup>3</sup> )	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/m <sup>3</sup> )	Reason code(s)

**Form 11g Exceedence of NO<sub>x</sub> limit value for vegetation**

Zone code	EoI station code	Level ( $\mu\text{g}/\text{m}^3$ )	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 ( $\mu\text{g}/\text{m}^3$ )	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 ( $\mu\text{g}/\text{m}^3$ )	Reason code(s)

**Form 11j Exceedence of lead limit value plus MOT**

Zone code	EoI station code	Level ( $\mu\text{g}/\text{m}^3$ )	Reason code(s)

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**Form 11k Exceedence of benzene limit value plus MOT**

Zone code	EoI station code	Level ( $\mu\text{g}/\text{m}^3$ )	Reason code(s)	Article 3(2)

**Form 11l Exceedence of carbon monoxide limit value plus MOT**

Zone code	EoI station code	Month	Day of month	Level ( $\mu\text{g}/\text{m}^3$ )	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

<i>Reason code</i>	<i>Description</i>
<i>S1</i>	<i>Heavily trafficked urban centre</i>
<i>S2</i>	<i>Proximity to a major road</i>
<i>S3</i>	<i>Local industry including power production</i>
<i>S4</i>	<i>Quarrying or mining activities</i>
<i>S5</i>	<i>Domestic heating</i>
<i>S6</i>	<i>Accidental emission from industrial source</i>
<i>S7</i>	<i>Accidental emission from non-industrial source</i>
<i>S8</i>	<i>Natural source(s) or natural event(s)</i>
<i>S9</i>	<i>Winter sanding of roads</i>
<i>S10</i>	<i>Transport of air pollution originating from sources outside the Member State</i>
<i>S11</i>	<i>Local petrol station</i>
<i>S12</i>	<i>Parking facility</i>
<i>S13</i>	<i>Benzene storage</i>

**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)**

<i>Reason code</i>	<i>Description</i>

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

**Form 13a Exceedence of ozone information threshold value**

<i>Zone code</i>	<i>Eol station code</i>	<i>Month</i>	<i>Day of month</i>	<i>Maximum 1-hour mean ozone concentration (<math>\mu\text{g}/\text{m}^3</math>) during exceedence period</i>	<i>Reason code(s)</i>	<i>Starting time of the exceedence period</i>	<i>Total number of exceedence hours</i>	<i>1-hour mean <math>\text{NO}_2</math> concentration (<math>\mu\text{g}/\text{m}^3</math>) during maximum ozone concentration</i>

**Form 13b Exceedence of ozone alert threshold value**

*Status: This is the original version (as it was originally adopted).*

Zone code	EoI station code	Month	Day of month	Maximum 1-hour mean ozone concentration ( $\mu\text{g}/\text{m}^3$ ) during exceedance period	Reason code(s)	Starting time of the exceedance period	Total number of exceedance hours	1-hour mean $\text{NO}_2$ concentration ( $\mu\text{g}/\text{m}^3$ ) 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 ( $\mu\text{g}/\text{m}^3$ )	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  $\text{NO}_2$  measurements is restricted to a minimum of 50% of the  $\text{O}_3$  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) ( $\mu\text{g}/\text{m}^3$ ) averaged over five years	If a full and consecutive set of data of 5 year was not used: calendar years taken into account (at least 3 year)

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 ( $\mu\text{g}/\text{m}^3\cdot\text{h}$ )		AOT40 for forest protection ( $\mu\text{g}/\text{m}^3\cdot\text{h}$ )		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**

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*Status: This is the original version (as it was originally adopted).*

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EoI station code	Stations		
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			

**Form 16b Annual average concentrations of other ozone precursor substances**

EoI station code	Stations		

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))**

Status: This is the original version (as it was originally adopted).

EoI station code	The number of concentrations averaged over 10 minutes which have exceeded 500 µg/m <sup>3</sup>	The number of days within the calendar year on which such exceedences occurred	The number of the days referred to in the previous column, on which hourly concentrations of sulphur dioxide simultaneously exceeded 350 µg/m <sup>3</sup>	The maximum concentration averaged over 10 minutes recorded (µg/m <sup>3</sup> )	Date on which the maximum concentration occurred	
					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/m <sup>3</sup> )	Median (µg/m <sup>3</sup> )	98 percentile (µg/m <sup>3</sup> )	Maximum concentration (µg/m <sup>3</sup> )

**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 VI(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)				Above LV for health (24hr mean)				Above LV for ecosystems (annual mean)				Above LV for ecosystems (winter mean)			
	Area		Population exposed		Area		Population exposed		Area		Ecosystem area exposed		Area		Ecosystem area exposed	
	km <sup>2</sup>	Method	Number	Method	km <sup>2</sup>	Method	Number	Method	km <sup>2</sup>	Method	km <sup>2</sup>	Method	km <sup>2</sup>	Method	km <sup>2</sup>	Method

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

*Status: This is the original version (as it was originally adopted).*

Zone code	Above LV for health (1hr mean)						Above LV for health (annual mean)						Above LV for vegetation			
	Area		Road length		Population exposed		Area		Road length		Population exposed		Area		Vegetation area exposed	
	km <sup>2</sup>	Method	km	Method	Number	Method	km <sup>2</sup>	Method	km	Method	Number	Method	km <sup>2</sup>	Method	km <sup>2</sup>	Method

**Form 19c.1 Results of and methods used for supplementary assessment for PM<sub>10</sub> (Stage 1)**

Zone code	Above LV (24hr mean)						Above LV (annual mean)						
	Area		Road length		Population exposed		Area		Road length		Population exposed		
	km <sup>2</sup>	Method	km	Method	Number	Method	km <sup>2</sup>	Method	km	Method	Number	Method	

**Form 19c.2 Results of and methods used for supplementary assessment for PM<sub>10</sub> (Stage 2)**

Zone code	Above LV (24hr mean)						Above LV (annual mean)						
	Area		Road length		Population exposed		Area		Road length		Population exposed		
	km <sup>2</sup>	Method	km	Method	Number	Method	km <sup>2</sup>	Method	km	Method	Number	Method	

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

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

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

Status: This is the original version (as it was originally adopted).

Zone code	Above LV					
	Area		Road 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		Road length		Population exposed	
	km <sup>2</sup>	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 exposed		Area		Ecosystem area exposed		Area		Ecosystem area exposed	
	km <sup>2</sup>	Method	Number	Method	km <sup>2</sup>	Method	Number	Method	km <sup>2</sup>	Method	km <sup>2</sup>	Method	km <sup>2</sup>	Method	km <sup>2</sup>	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

<i>Pollutant</i>	<i>Parameters</i>
<i>SO<sub>2</sub></i>	<i>99.7 percentile of 1h means; 98.9 percentile of 24h means; annual mean; winter mean</i>
<i>NO<sub>2</sub></i>	<i>99.8 percentile of 1h means</i>
<i>NO<sub>2</sub>/NO<sub>x</sub></i>	<i>Annual mean</i>
<i>PM<sub>10</sub></i>	<i>90.1 percentile of 24h means (stage 1); 97.8 percentile of 24h means (stage 2)</i>
<i>PM<sub>10</sub> and PM<sub>2,5</sub></i>	<i>Annual mean</i>
<i>Lead</i>	<i>Annual mean</i>
<i>Benzene</i>	<i>Annual mean</i>
<i>Carbon monoxide</i>	<i>Maximum daily 8-hour mean</i>
<i>Ozone</i>	<i>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</i>

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

<i>Method</i>	<i>Full reference</i>

**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)**

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Zone	Eol 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)**

Zone	Eol 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	Eol 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	Eol 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

<i>Natural source code</i>	<i>Description</i>
<i>A1</i>	<i>Volcanism inside the Member State</i>

<i>A2</i>	<i>Volcanism outside the Member State</i>
<i>B</i>	<i>Coastal wetlands</i>
<i>C1</i>	<i>Natural fires inside the Member State</i>
<i>C2</i>	<i>Natural fires outside the Member State</i>

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

<i>Natural source code</i>	<i>Description</i>

**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<sub>10</sub> limit value (stage 1; 24hr mean)**

<i>Zone</i>	<i>Eol station code</i>	<i>Number of exceedences measured</i>	<i>Natural event code(s)</i>	<i>Estimated number of exceedences after subtraction of natural contribution</i>	<i>Reference to justification</i>

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

<i>Zone</i>	<i>Eol station code</i>	<i>Annual mean concentration</i>	<i>Natural event code(s)</i>	<i>Estimated annual mean concentration after subtraction of natural contribution</i>	<i>Reference to justification</i>

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<sub>10</sub>: STANDARD CODES

<i>Natural event code</i>	<i>Description</i>
<i>A1</i>	<i>Volcanic eruption inside the Member State</i>

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<i>A2</i>	<i>Volcanic eruption outside the Member State</i>
<i>B1</i>	<i>Seismic activity inside the Member State</i>
<i>B2</i>	<i>Seismic activity outside the Member State</i>
<i>C1</i>	<i>Geothermal activity inside the Member State</i>
<i>C2</i>	<i>Geothermal activity outside the Member State</i>
<i>D1</i>	<i>Wild-land fire inside the Member State</i>
<i>D2</i>	<i>Wild-land fire outside the Member State</i>
<i>E1</i>	<i>High wind event inside the Member State</i>
<i>E2</i>	<i>High wind event outside the Member State</i>
<i>F1</i>	<i>Atmospheric resuspension inside the Member State</i>
<i>F2</i>	<i>Atmospheric resuspension outside the Member State</i>
<i>G1</i>	<i>Transport of natural particles from dry regions inside the Member State</i>
<i>G2</i>	<i>Transport of natural particles from dry regions outside the Member State</i>

**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<sub>10</sub> limit value (stage 1; 24hr mean)**

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

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

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

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

**Form 25a General**



<i>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:</i>	(y or n)
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**Form 25b Specification per Member State**

If yes, please:	A	B	C	C	D	D	E	E	FI	F	G	H	IE	IT	L	L	L	M	N	P	P	S	S	SI	U
– 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/m <sup>3</sup> )	Reason code(s)	Measures taken

Notes to Form 26:

- (1) The numerical value of the limit value exceeded should be indicated in the second column.
- (2) For SO<sub>2</sub> and suspended particulates it should be indicated whether the black-smoke or the 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))**

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*Status: This is the original version (as it was originally adopted).*

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<i>Reason code</i>	<i>Description</i>