## Minimum number of sampling points

## PART 1

Group A pollutants: human health based limit values and alert thresholds

1. This Part sets out the minimum number of sampling points for fixed measurement of Group A pollutants to assess compliance with limit values for the protection of human health and alert thresholds in zones where fixed measurement is the sole source of information.

## Diffuse sources

| Population of zone <br> (thousands) | Where <br> concentrations <br> exceed the upper <br> assessment <br> threshold $^{(\text {) }}$ | Where maximum <br> concentrations <br> are between <br> the upper and <br> lower assessment <br> thresholds | For nitrogen dioxide <br> and sulphur dioxide <br> in agglomerations <br> where maximum <br> concentrations <br> are below the <br> lower assessment <br> thresholds |
| :--- | :---: | :---: | :---: |
| $0-249$ | 1 | 1 | 1 |
| $250-499$ | 2 | 1 | 1 |
| $500-749$ | 2 | 1 | 1 |
| $750-999$ | 3 | 1 | 1 |
| $1,000-1,499$ | 4 | 2 | 1 |
| $1,500-1,999$ | 5 | 3 | 1 |
| $2,000-2,749$ | 6 | 3 | 2 |
| $2,750-3,749$ | 7 | 4 | 2 |
| $3,750-4,749$ | 8 | 4 | 2 |
| $4,750-5,999$ | 9 | 5 | 3 |
| 6,000 or more | 10 | 2 | 1 |

(1) For NO 2 and $\mathrm{PM}_{10}$ to include at least one urban-background station and one traffic-orientated station; this requirement shall also apply to benzene and carbon monoxide provided that it does not increase the number of sampling points.

## Point sources

2. For the assessment of pollution in the vicinity of point sources, the number of sampling points for fixed measurement shall be calculated taking into account emission densities, the likely distribution patterns of ambient-air pollution and the potential exposure of the population.

## PART 2

## Group A pollutants: limit values for the protection of ecosystems or vegetation

3. The following table sets out the minimum number of sampling points for fixed measurements to assess compliance with limit values for the protection of ecosystems or vegetation in zones other than agglomerations.

| Where maximum concentrations exceed the <br> upper assessment threshold | Where maximum concentrations are between <br> the upper and lower assessment thresholds |
| :--- | :--- |
| 1 station every $20,000 \mathrm{~km}^{2}$ | 1 station every $40,000 \mathrm{~km}^{2}$ |

4. In island zones the number of sampling points for fixed measurement shall be calculated taking into account the likely distribution patterns of ambient-air pollution and the potential exposure of ecosystems or vegetation.

## PART 3

## Group B pollutants

5. This Part sets out the minimum number of sampling points for fixed measurement of Group B pollutants to assess compliance with target values in zones where fixed measurement is the sole source of information.

Diffuse sources

| Population of <br> zone <br> (thousands) | Where maximum concentrations <br> exceed the upper assessment <br> threshold ${ }^{(I)}$ | Where maximum concentrations are <br> between the upper and lower <br> assessment thresholds |  |  |
| :--- | :--- | :---: | :---: | :---: |
|  | Arsenic, <br> Cadmium, <br> Nickel | Benzo(a)pyrene | Arsenic, <br> Cadmium, <br> Nickel | Benzo(a)pyrene |
| $0-749$ | 1 | 1 | 1 | 1 |
| $750-1999$ | 2 | 2 | 1 | 1 |
| $2000-3749$ | 2 | 3 | 1 | 1 |
| $3750-4749$ | 3 | 4 | 2 | 2 |
| $4750-5999$ | 4 | 5 | 2 | 2 |
| 6000 or more | 5 | 5 | 2 | 2 |

(1) To include at least one urban-background station and for benzo(a)pyrene also one traffic-oriented station provided this does not increase the number of sampling points.

## Point sources

6. For the assessment of pollution in the vicinity of point sources, the number of sampling points for fixed measurement shall be determined taking into account emission densities, the likely distribution patterns of ambient air pollution and potential exposure of the population. The sampling points shall be sited such that the application of the measures referred to in regulation 7(2)(b) can be monitored.

## PART 4

## Ozone

7. The minimum number of sampling points for fixed measurement of ozone to assess compliance with the target values, long-term objectives and information and alert thresholds where continuous measurement is the sole source of information is set out in the following table-

| Population of zone (thousands) | Agglomerations (urban and suburban) ${ }^{(\text {I) }}$ | Other zones (suburban and rural) ${ }^{(1)}$ | Rural background |
| :---: | :---: | :---: | :---: |
| 0-249 | 1 | 1 | 1 station/50,000 $\mathrm{km}^{2}$ as an average density over all zones in England ${ }^{(2)}$ |
| 250-499 | 1 | 2 |  |
| 500-999 | 2 | 2 |  |
| 1,000-1,499 | 3 | 3 |  |
| 1,500-1,999 | 3 | 4 |  |
| 2,000-2,749 | 4 | 5 |  |
| 2,750-3,749 | 5 | 6 |  |
| 3,750 or more | 1 additional station per 2 million inhabitants | 1 additional station per 2 million inhabitants |  |

(1) At least 1 station in suburban areas, where the highest exposure of the population is likely to occur. In agglomerations at least $50 \%$ of the stations shall be located in suburban areas.
(2) 1 station per $25,000 \mathrm{~km}^{2}$ for complex terrain is recommended by Directive 2002/3/EC.

## PART 5

Ozone: minimum number of sampling points for fixed measurements for zones attaining the long-term objectives
8. In cases where zones attain the long-term objectives, the number of sampling points for ozone shall, in combination with other means of supplementary assessment such as air quality modelling and co-located nitrogen dioxide measurements, be sufficient to examine the trend of ozone pollution and check compliance with the long-term objectives.
9. The number of stations located in agglomerations and other zones may be reduced to one-third of the number specified in the Table in Part 4. Where information from fixed measurement stations is the sole source of information, at least one monitoring station shall be kept. If, in zones where there is supplementary assessment, the result of this is that a zone has no remaining station, adequate assessment of concentrations of ozone against long-term objectives shall be ensured through coordination with the number of stations in neighbouring zones.
10. The number of rural background stations shall be 1 per $100,000 \mathrm{~km}^{2}$.

