ANNEX III

Location and minimum number of sampling points for the measurement of concentrations in ambient air and deposition rates

I.Macroscale siting

The sites of sampling points should be selected in such a way as to:

— provide data on the areas within zones and agglomerations where the population is likely to be directly or indirectly exposed to the highest concentrations averaged over a calendar year;

— provide data on levels in other areas within zones and agglomerations which are representative of the exposure of the general population;

— provide data on deposition rates representing the indirect exposure of the population through the food chain.

Sampling points should in general be sited so as to avoid measuring very small micro-environments in their immediate vicinity. As a guideline, a sampling point should be representative of air quality in surrounding areas of no less than 200 m^2 at traffic-orientated sites, at least 250 m × 250 m at industrial sites, where feasible, and several square kilometres at urban-background sites.

Where the objective is to assess background levels the sampling site should not be influenced by agglomerations or industrial sites in its vicinity, i.e. sites closer than a few kilometres.

Where contributions from industrial sources are to be assessed, at least one sampling point shall be installed downwind of the source in the nearest residential area. Where the background concentration is not known, an additional sampling point shall be situated within the main wind direction. In particular where Article 3(3) applies, the sampling points should be sited such that the application of BAT can be monitored.

Sampling points should also, where possible, be representative of similar locations not in their immediate vicinity. Where appropriate they should be co-located with sampling points for PM_{10}.

II. Microscale siting

The following guidelines should be met as far as practicable:

— the flow around the inlet sampling probe should be unrestricted, without any obstructions affecting the airflow in the vicinity of the sampler (normally some metres away from buildings, balconies, trees and other obstacles and at least 0,5 m from the nearest building in the case of sampling points representing air quality at the building line);

— in general, the inlet sampling point should be between 1,5 m (the breathing zone) and 4 m above the ground. Higher positions (up to 8 m) may be necessary in some circumstances. Higher siting may also be appropriate if the station is representative of a large area;

— the inlet probe should not be positioned in the immediate vicinity of sources in order to avoid direct intake of emissions unmixed with ambient air;

— the sampler’s exhaust outlet should be positioned so that recirculation of exhaust air to the sample inlet is avoided;

— traffic-orientated sampling points should be at least 25 metres from the edge of major junctions and at least 4 m from the centre of the nearest traffic lane; inlets should be sited so as to be representative of air quality near the building line;

— for the deposition measurements in rural background areas, the EMEP guidelines and criteria should be applied as far as practicable and where not provided for in the Annexes.

The following factors may also be taken into account:

— interfering sources
— security
— access
— availability of electrical power and telephone communications
— visibility of the site in relation to its surroundings
— safety of the public and operators
— the desirability of co-locating sampling points for different pollutants
— planning requirements.

III. Documentation and review of site selection

The site selection procedures should be fully documented at the classification stage by such means as compass-point photographs of the surrounding area and a detailed map. Sites should be reviewed at regular intervals with repeated documentation to ensure that selection criteria remain valid over time.

IV. Criteria for determining numbers of sampling points for fixed measurement of concentrations of arsenic, cadmium, nickel and benzo(a)pyrene in ambient air

Minimum number of sampling points for fixed measurement to assess compliance with target values for the protection of human health in zones and agglomerations where fixed measurement is the sole source of information.

(a) Diffuse sources

Population of agglomeration or zone(thousands)	**If maximum concentrations exceed the upper assessment threshold[a]**		**If maximum concentrations are between the upper and lower assessment thresholds**	
	As, Cd, Ni	**B(a)P**	**As, Cd, Ni**	**B(a)P**
0–749	1	1	1	1
750–1 999	2	2	1	1
2 000–3 749	2	3	1	1
3 750–4 749	3	4	2	2
4 750–5 999	4	5	2	2
≥ 6 000	5	5	2	2

a 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.

(b) Point sources

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

The sampling points should be sited such that the application of BAT as defined by Article 2(11) of Directive 96/61/EC can be monitored.