

**Informal document for WGSR 45:
Revision of the Gothenburg Protocol - Definition of PM**

A. The definition of PM as proposed in doc ECE/EB.AIR/WG.5/2009/4 under Art 1(12) reads

12. *Particulate matter (PM10 and PM2.5 and TSP (total suspended particulate matter)) means:*

(a) *PM2.5: The mass of particulate matter that is measured after passing through a size-selective inlet with a 50 per cent efficiency cut-off at 2.5 µm aerodynamic diameter;*

(b) *PM10: The mass of particulate matter that is measured after passing through a size-selective inlet with a 50 per cent efficiency cut-off at 10 µm aerodynamic diameter;*

(c) *TSP: the mass of particles, of any shape, structure or density, dispersed in the gas phase at the sampling point conditions which may be collected by filtration under specified conditions after representative sampling of the gas to be analysed, and which remain upstream of the filter and on the filter after drying under specified conditions;*

While this definition corresponds to current EU legislation it has the disadvantage to relate to specific monitoring methods. In aiming not to pre-empt any PM monitoring method the following wording is proposed for Art 1 (12a and b):

12. *If not stated otherwise in the context of this Protocol particulate matter comprises both PM2.5 and PM10 meaning:*

(a) *PM2.5: The mass of particulate matter with an aerodynamic diameter equal to or less than 2.5 µm;*

(b) *PM10: The mass of particulate matter with an aerodynamic diameter equal to or less than 10 µm.*

Furthermore it is suggested that no definition of TSP would be given, i.e. that Art 1 (12c) would be deleted, the reason being that in the remaining text the term “TSP” does not occur.

B. Most emission regulations relate to “dust” instead of “PM” or “TSP”. Consequently the proposed Annex X is titled

LIMIT VALUES FOR EMISSIONS OF DUST FROM STATIONARY SOURCES

and the current definition of the ELVs in the proposed Annex reads:

2. *For the purpose of section A, limit value means the quantity of a gaseous substance contained in the waste gases from an installation that is not to be exceeded. Unless otherwise specified, it shall be calculated in terms of mass of pollutant per volume of the waste gases (expressed as mg/m³), assuming standard conditions for temperature and pressure for dry gas (volume at 273.15 K, 101.3 kPa). With regard to the oxygen content of exhaust gas, the values given in the tables below for each source category shall apply. Dilution for the purpose of lowering concentrations of pollutants in waste gases is not permitted. Start-up, shutdown and maintenance of equipment are excluded.*

The shortcoming of this wording is that it does not relate to any pollutant addressed in the main body of the Protocol, i.e. PM2.5 and/or PM10. Therefore it is proposed to change the title of Annex X to

LIMIT VALUES FOR EMISSIONS OF [PARTICULATE MATTER] [DUST - delete] FROM STATIONARY SOURCES

and to expand the corresponding definitions in Annex X as follows:

[2. As monitoring data for specific fractions of particulate matter such as PM_{2.5} and PM₁₀ are in general not available ELVs are defined for dust. As can be seen from the corresponding Guidance Document on abatement techniques for dust in general provide an equally high removal efficiency for PM_{2.5} and PM as for dust.]

2bis. For the purpose of section A, limit value [for dust] means the quantity of a gaseous substance contained in the waste gases from an installation that is not to be exceeded. Unless otherwise specified, it shall be calculated in terms of mass of pollutant per volume of the waste gases (expressed as mg/m³), assuming standard conditions for temperature and pressure for dry gas (volume at 273.15 K, 101.3 kPa). With regard to the oxygen content of exhaust gas, the values given in the tables below for each source category shall apply. Dilution for the purpose of lowering concentrations of pollutants in waste gases is not permitted. Start-up, shutdown and maintenance of equipment are excluded.

A corresponding wording should apply to all Annexes referring to ELVs for dust.