



Winter sanding & salting

Contribution to PM₁₀ exceedances

Source: Helsingin Kaupungin Ympäristökeskus

Legal situation

- Art. 21 of AQD
 - designate zones or agglomerations within which limit values for PM₁₀ are exceeded due to the re-suspension following winter-sanding or -salting of roads
 - send the Commission information on concentrations and sources of PM₁₀
 - Take reasonable measures to lower the concentrations
 - air quality plan needed if exceedances are attributable to PM₁₀ sources other than winter-sanding or -salting
- [Guidance document](#) available

Methods to quantify contribution

- Winter sanding: Method developed in Finland
 - Specific situation in northern countries:
 - Long winter during which traction control sand resides on the road without cleaning
 - comparatively low – rural and urban – background concentrations
 - high fraction of coarse particles (from winter sanding, as well as road abrasion)
- ➔ Fraction of $PM_{10}/PM_{2.5}$ used

Finnish method

- 50% of coarse $PM_{10-2.5}$ is attributed to winter sanding and subtracted from PM_{10} levels if:
- Winter sanding activities have taken place and road sand or the remains of it actually on the road
- The road surface was dry
- The $PM_{2.5}/PM_{10}$ ratio is equal or less than 0.5 (i.e. no long-range transport, no wild fires etc.)

Parallel monitoring of PM₁₀ and PM_{2.5}

- if possible, PM_{2.5} measurements at the same site at which the PM₁₀ exceedances occurred
- If not available: PM_{2.5} data at another comparable kerbside
- if not available: PM_{2.5} data at an urban background station
- if not available: PM₁₀ data at an urban background station
- Representativeness should be checked

Winter salting

- Information on chemical properties of the salt dispersed on the roads nearby the monitoring site
- chemical analysis of chloride – or other relevant chemical constituents of the PM₁₀ samples (each day!)
- ensuring that high concentrations of those constituents do not originate from other sources
- subtracting the derived fraction of salting material from the PM₁₀ concentration

Contact & Information

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