



defra

Department for Environment
Food and Rural Affairs

Area 3C
Ergon House
17 Smith Square
London
SW1P 3JR

Web: www.defra.gov.uk

Your ref:

Our ref:

Date: 06 Jun 2008

Dear Colleague,

Re: Analysis of Trends in Particulate Matter in the United Kingdom – measurement issues

Monitoring of particulate matter is a complex issue, and can have major implications for compliance assessments of Member States against legally binding limit values.

During the routine measurement of PM₁₀ and PM_{2.5} in the UK two issues have been discovered, which have potentially far reaching consequences. The investigation of these two issues is discussed in detail in the attached paper, which Defra is publishing for open peer-review.

The first of these is a measurement issue with the 'field blanks' used in gravimetric monitoring, associated with an apparent change point in April/May 2006. This affected all the gravimetric analysis undertaken on the UK national automatic urban and rural network and two related research networks.

The second is an area which has begun to become more widely appreciated on the use of quartz filters for mass measurements and the hysteresis effects of the retention and loss of particle-bound water by quartz filters depending on the filter conditioning undertaken. This second adds to the increasing body of evidence on the unsuitability of quartz filters for mass measurements.

Defra and the Devolved Administrations would appreciate comments on the attached paper, in terms of the assessment undertaken and conclusions drawn. Your general views on the paper are invited and in particular on the following questions:

1. Do you think the arguments as set out in the paper adequately demonstrate that there is a problem?
2. Are there any further analyses which could be carried out to elucidate the reasons behind the field blank issue?
3. Should the annual mean gravimetric concentrations be corrected for the blank concentrations as described in Table 4.4?
4. Should the daily gravimetric concentrations be corrected for the blank concentrations as described in Table 4.4?
5. In the future should the daily gravimetric concentrations be corrected for the field blank concentrations?



INVESTOR IN PEOPLE



6. Should the difference between quartz and Teflon coated glass fibre be taken into account in the daily/annual mean gravimetric concentrations reported data and as the basis for modelling?
7. Do you have any data which you could contribute which may add to the elucidation of this issue?

Your responses should be sent to me, preferably by email (janet.dixon@defra.gsi.gov.uk) by 1 July 2008. Your comments will be forwarded to the authors unless you request otherwise. The paper will be finalised once all the comments have been received and will be published on the UK Air Quality Information Archive (www.airquality.co.uk).

Yours sincerely,

A handwritten signature in black ink, appearing to be 'JD', written over a faint, light-colored signature line.

Dr Janet Dixon
Senior Science Policy Advisor
Air Quality and Industrial Pollution

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