

PM10 IN LONDON DURING 2003**G. Fuller, D. Green***Environmental Research Group, King's College, London, UK*

During 2003 London experienced a series of widespread PM10 pollution episodes. Elevated particulate matter concentrations were measured at all background sites during February, March, April and August, with lesser incidents being experienced during September and November. Source apportionment analysis of PM10 and PM2.5 reveals that the first 5 episodes were predominately caused by secondary PM10 from distant sources, with summer episodes also being linked to photochemistry. The influx of secondary PM10 during 2003 can be compared to the secondary episode experienced in London during spring 1996. The November 2003 episode was associated with Guy Fawkes Night fireworks. Roadside sites measured additional PM10 from local traffic which increased the roadside concentrations during PM10 incidents and caused additional incidents not measured at background sites. In London PM10 is mainly measured using the TEOM method, which has a poor sensitivity to semi-volatile PM10 compared to the 'gravimetric' method. Comparison of TEOM and 'gravimetric' measurements can provide a qualitative assessment of semi-volatile PM10. The incidents during 2003 reversed the established trend of declining PM10 concentrations in London. Breaches of the 2005 EU Limit Value for PM10 were largely confined to roadside sites in central London and several roadside sites in outer London. The difference between roadside and background PM10 concentrations, with respect to the EU Limit Value, suggests that control of road traffic sources may, theoretically, be sufficient to manage any recurrence of these episodes. The practicality of implementing such road traffic measures is, however, an open question.