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EFFECTS OF CONSTRUCTION SITES ON LOCAL PM10 PARTICLE CONCENTRATIONS

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Pollution emissions from construction sites are known to affect the quality of the air in their immediate vicinity, with often quite significant effects being noticed near to the site boundary. However, these effects have rarely been quantified in terms of physically measuring the resulting increase in the local concentration of airborne particles. Therefore, until recently their impact on the local surroundings has not been fully understood. Emissions from sites can vary markedly, depending on, for example, the nature of the operations being carried out, the machinery and power-plant being used, the time of year and the local meteorological conditions prevailing at the time of the emission. This can lead to significant problems in being able to predict the likely impact of pollution from a construction site on the local air quality. In locations already designated as Air Quality Management Areas, this may be especially important, as emissions from the site could lead to breaches of standards set for air quality. To help to overcome this lack in data, PM10 concentrations related to a number of construction sites have been measured and compared with corresponding activities and meteorological information. Results from the analysis will be presented, along with an evaluation of its likely benefit to the knowledge base for use in predictive pollution dispersion modelling and emissions inventory work.