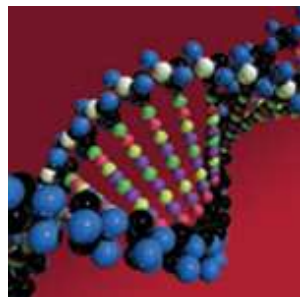


IAQM

Reviewing the Guidance on Dust Control from Construction Seminar



Introduction
Dr Claire Holman
20th January 2011



Why the Seminar

- Success of the IAQM guidance on operational impacts
- Agreed /consistent approach for construction impacts
- Need to provide a service for members



Institute of Air Quality Management

Position on the Description of Air Quality Impacts and the Assessment of their Significance

Introduction

The IAQM is committed to enhancing the understanding and development of the science behind air quality by promoting knowledge and understanding of best working practices. Our membership is mainly drawn from practicing air quality professionals working within the fields of air quality science, air quality assessment and air quality management. Environmental Protection UK (formerly the NSCA) asked the IAQM to contribute to the revision of their widely referenced 2006 update to the guidance *Development Control: Planning for Air Quality*. This generated a great deal of interest amongst those members of the IAQM who's normal business is the assessment of the significance of air quality impacts as part of the planning process. At the initial IAQM open meeting on Planning Guidance and Significance Criteria, it became evident that while the 2006 document was widely used in the absence of any statutory guidance, it was not widely endorsed by those undertaking impact assessments. In contrast, decision makers and those advising the decision makers found the guidance valuable.

The task of describing the nature of air quality impacts and then assessing the significance of the associated effect, is distinct from the task of reviewing an impact assessment and employing the conclusions within the wider decision making process. The difference in the depth and type of air quality experience required to competently complete each of these two tasks should be recognised and separate guidance prepared to support those engaged with each role. The advice and opinion offered by the IAQM in this document relates to the task of describing local air quality impacts and assessing their significance.

Since the open meeting in London on the 25th June 2009, there has been an ongoing dialogue within the IAQM, that developed into a working group, some questionnaires seeking opinions on points of detail, a working group meeting in Bristol on 20th August 2009 and ultimately to this document which was circulated to a cross-section of members within the IAQM prior to it being issued to EPUK. As such this document represents the collective view of the Institute's professional membership.

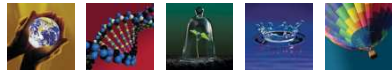
The study of air pollutants in ambient air is not an exact science. The uncertainty is often increased further by the constraints on time and techniques that are typically associated with assessing air quality in the context of the planning process. Assessing the significance of impacts of development on air quality cannot be reduced to strict, formulaic methodology and judgement will always be required. An appreciation of the relative reliability and limitations of methods and data are required



Aim of seminar


- Discuss construction / demolition AQ impacts
- How should they be assessed
- Can we agree significance criteria
- Mineral /waste sites
- IAQM Subgroup





Assessment Approaches

- Mitigation
 - Solves all the problems so no need to assess the impacts
- Modelling
 - Difficult
- Qualitative assessment
 - Site of site, historical local wind speed/direction, distance from receptors, types of construction/demolition activity, phasing, geology, vegetation, etc



Issues

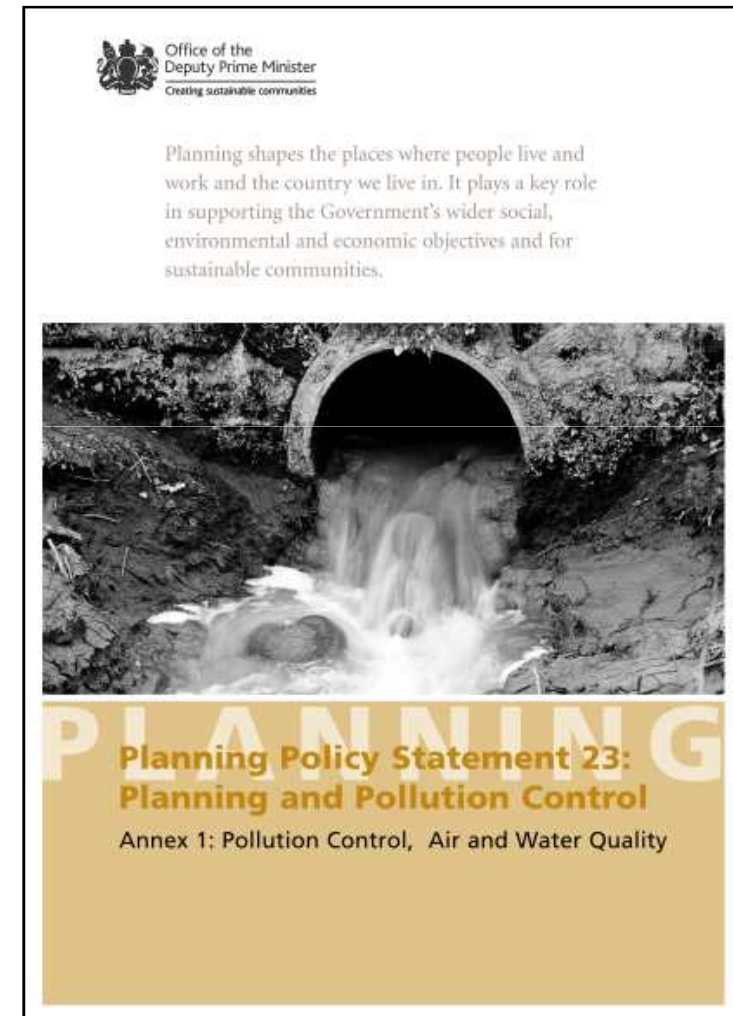
- Dust Emissions - dust deposition onto surfaces; visual plumes
- Elevated short-term PM_{10} concentrations – health impacts
- Vehicle / Plant Emissions
- Mitigation
- Monitoring





Nuisance v Annoyance

- PPS 23 on Planning and Pollution Control
- Nuisance
 - ... It is not intended to secure a high level of amenity but is a basic safeguarding standard intended to deal with excessive emissions. **Nuisance does not equate to loss of amenity.**
 - Significant loss of amenity will often occur at **lower levels of emission** than would constitute a statutory nuisance.





IAQM Guidance - Magnitude of Impact

Magnitude	Change in annual mean NO ₂ and PM ₁₀ concentrations	Change in number of days PM ₁₀ >50µg/m ³
Large	> 4.0 µg/m ³	> 4 days
Medium	2.1 – 4.0 µg/m ³	2 – 4 days
Small	0.4 – 2.0 µg/m ³	1 – 2 days
Imperceptible	< 0.4 µg/m ³	< 1 day



IAQM Guidance – Significance Criteria

Absolute concentration in relation to Objective / Limit Value	Change in concentration		
	Small	Medium	Large
Above objective/limit value	Slight	Moderate	Substantial
Just below objective/limit value	Slight	Moderate	Moderate
Below objective/limit value	Negligible	Slight	Slight
Well below objective/limit value	Negligible	Negligible	Slight



Mineral Planning Statement 2

Table 1A2 Examples of Dust-sensitive Facilities (after *Ireland M*, 1992)

High Sensitivity	Medium Sensitivity	Low Sensitivity
Hospitals and clinics	Schools	Farms
Retirement homes	Residential areas	Light and heavy industry
Hi-tech industries	Food retailers	Outdoor storage
Painting and furnishing	Glasshouses and nurseries	
Food processing	Horticultural land	
	Offices	

Are these still relevant?
Do we agree with them?
Are residential areas high sensitivity?



Guidance

Office of the Deputy Prime Minister
Creating sustainable communities

Minerals are essential for development that for our quality of life and communities. Minerals planning for minerals by society and the balanced against the impacts of processing on people and the environment.

PLANNING
Minerals Policy Statement
Controlling and Mitigating
Environmental Effects
Extraction in England
Annex 1: Dust

Best Practice Guidance
Produced in partnership by the Greater London Authority and London Councils

The control of dust from construction and demolition activities

LONDON COUNCILS

Control of dust from construction and demolition activities

Vina Kukadia, Stuart Upton, David

BRE **dti**

BRE **dti**

Pollution control guide

Controlling particles, vapour and noise pollution from construction sites Part 1

Vina Kukadia, Stuart Upton, Colin Greenwood and Chuck Yu

Construction sites can be a major source of pollution if not managed and controlled properly, and can have an adverse impact on health and the local environment. Enforcement is disruptive and expensive. It is therefore important that construction personnel follow good environmental practice to control these emissions, comply with environmental legislation and prevent problems.

This Guide is the first in a series intended to assist with the control of air pollution and noise emissions from construction sites. It sets out guidance on controlling pollution emissions through effective pre-project planning and management issues that are an essential part of any construction project. Other Guides in the series give methods for controlling air and noise pollution from various construction and demolition activities.

How to use this series of controlling particles, vapour and noise pollution

- 1 Pre-project planning and effective management
- 2 Site preparation, demolition, earthworks and disposal
- 3 Hoarding routes, vehicles and plant
- 4 Site access and site security

Site Preparation

Pollution from construction
Particles, noise, vibration and odorous discharges.

Particles
All airborne particles and deposited dust.

Fine particles
Location: Urban in Boreham, Jarrow and PM₁₀.

Noise
Construction levels of sound and vibration.

Vapours
Volatile organic compounds (VOCs), such as benzene and toluene, being released, for example from fuels, petroleum solvents and lubricants for site.

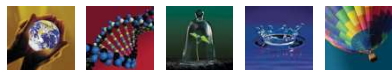
Air Quality Management Area (AQMA)
An area declared a critical failure where local action is needed to reduce pollution concentrations to meet government health based targets.

Health effects
Pollution emissions have a detrimental environment. can have an adverse impact on particularly the fine particles contributing to problems. Long term health and wellbeing. It is located in site and disturb local environment.

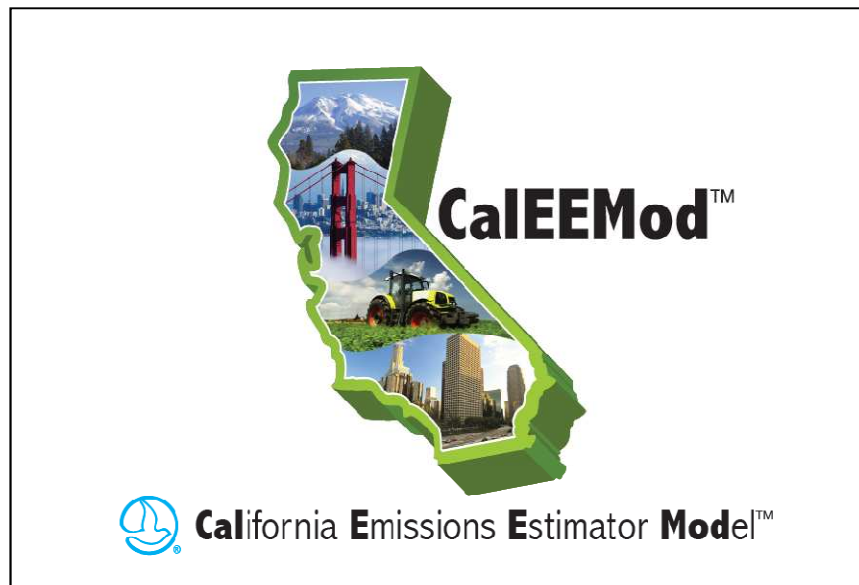
Monitoring of particulate matter in ambient air around waste facilities

Technical Guidance Document (Monitoring) M17

ENVIRONMENT AGENCY



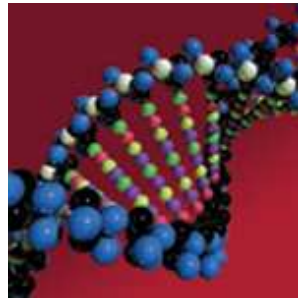
Construction impacts



- Construction Phase
 - Off-Road equipment
 - Dust from Material movement
 - Demolition
 - Vehicle Trips
 - On-road fugitive Dust
 - Architectural Coatings
- Operational Phase
 - Vehicle trips
 - Road dust
 - Hearths and Woodstoves
 - Consumer Products
 - Area Architectural Coating
 - Landscape Equipment
 - Energy Use
 - Water and Wastewater Use
 - Solid Waste
 - Vegetation

Prepared for:
**South Coast Air Quality
Management District**

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