

## Five things you need to know about ADM

Air dispersion modelling (ADM) is an air emissions risk assessment that uses detailed modelling to identify if air emissions could harm the environment or human health.

But why do we need it and what are the consequences of not carrying it out? Wiser Environment takes a look at ADM and tries to explain this technical requirement in layman's terms.

### Who needs ADM?

You might require air dispersion modelling if you are:

- **A commercial facility** - with point source emissions of air pollutants from stacks or flues (for example boilers or combustion plants)
- **An industrial processor** - with odour emission release points (for example from abatement stacks or bio-filters)
- **A plant operator** - required to reassess environmental impacts following increase in capacity or add/replacement of plant/equipment
- **An industrial facility** - required to verify efficacy of odour abatement technologies
- **A developer** - looking to appraise site locations before submitting planning applications

Under these circumstances it is likely that, at some point, you will need to carry out (or have carried out) a risk assessment identifying the risks, receptors and pathways, and controls required to mitigate against any environmental impacts from odour and air emissions.

### When might I need ADM?

Whilst air emissions are likely to require continual or annual monitoring, an emissions risk assessment using ADM is generally only required as a result of change - that is, when needing to assess proposed changes to potential environmental impacts or new development. This might be the case in the following circumstances:

- Planning applications
- Environmental impact assessments
- Bespoke environmental permit applications
- Compliance with existing planning or permit conditions
- Prompted by application to vary existing environmental permit
- Requested by the regulator (for example Environment Agency) in response to change in legislation, complaints or possible enforcement action

As part of an emissions risk assessment, you are required to calculate the environmental concentration of each substance you release into the air (process contribution). You can then screen out any the substances (process contributions) that have insignificant environmental impacts. You are required to carry out detailed air dispersion modelling for any emissions not screened out during the risk assessment.

## What does ADM involve?

Detailed air dispersion modelling requires computer software that models the passage of a substance as it travels through the atmosphere until it reaches the ground.

For each substance released to air, you need to compare the PC (process contribution) and PEC (PC plus background concentration) with the relevant environmental standard and summarise results. Emission limits values are generally sector specific and often derived from requirements in BREFs or Sector Guidance notes.

ADM is a quantitative assessment that can be adapted to demonstrate compliance for different scenarios or complex locations.

## What happens if I fail to carry out ADM?

Air and odour emissions are covered by the Environmental Permitting (England and Wales) Regulations) 2016 which stipulate that air dispersion modelling must be carried out (in certain circumstances) unless those emissions are proven to be negligible.

Air and odour emissions are regulated by the Environment Agency (England), Natural Resource Wales (Wales), Scottish Environmental Protection Agency (Scotland) and Northern Ireland Environment Agency (Northern Ireland).

Failure to comply with the legislation is unsurprisingly likely to result in enforcement action by the regulator. Ultimately failing to carry out ADM could result in a breach of planning control, failure to secure the required environmental permit or the serving of a notice on an existing permit.

## Who can carry out ADM?

Detailed modelling requires specialist knowledge and software. It is likely that you will require the assistance of a specialist environmental consultant with air pollution modelling software and knowledge.

Wiser Environment combines in-house expertise and the world leading industrial air pollution modelling software, ADMS (Atmospheric Dispersion Modelling System) 5.

Contact us on 01480 462 232 for assistance.

## Find out more

### **DEFRA and EA guidance: air emissions risk assessment for your environmental permit**

<https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>

### **Wiser Environment's ADM services**

<http://www.wiserenvironment.co.uk/our-services/air-dispersion-modelling/>