Dust Control Statement – Kingstone/Holgate ALC.

Introduction.

Condition 8 of Reserved Matters Approval 2010/0901 for the construction of a new Advanced Learning Centre at the Holgate School, Barnsley states:

"Unless otherwise agreed in writing by the Local Planning Authority before the development takes place a scheme shall be submitted in writing and approved by the planning authority for the suppression of dust arising from the site .The development shall be completed in accordance with the approved details which shall thereafter be retained. "

This statement sets out the methods that will be used to suppress the generation of dust that may arise from operations on the site, during construction.

Background

A variety of air pollutants have known or suspected harmful effects on human health and the environment and can create a statutory nuisance. The UK government has made provisions to ensure that air quality standards for certain pollutants are set centrally through the National Air Quality Strategy. This sets out health-based standards for eight main air pollutants and objectives for their achievement. It identifies the action that needs to be taken at international, national and local level.

Generally, local authorities have control over the management of air quality through the identification of Air Quality Management Areas. In addition, local authorities regulate the smaller, less polluting, installations and processes such as batching plants, crushing activities or spray bays, for example. The Environmental Agency, on the other hand, regulates air emissions from the more polluting processes such as landfill sites and asphalt plants. There is also a strong emphasis on product standards to reduce emissions such as vehicles. The common law of nuisance acts as a balancing factor where emissions unreasonably interfere with the enjoyment of private rights or property.

Legislative Overview

A suite of statute applies to the issue of dust control as follows:

- Environmental Protection Act 1990, Part 1 (Integrated Pollution and Control-IPC)
- Environmental Protection Act 1990, Part III (Statutory Nuisance);
- Clean Air Act 1993;
- The Environment Act 1995, Part IV;
- Pollution Prevention and Control Act 1999;
- Pollution Prevention and Control Regulations 2000 (IPPC);
- Air Quality Regulations 2000;

- EC Directive 99/13/EC, the "Solvent Emissions Directive" Air Quality Limit Values Regulations 2003;
- Solvent Emissions (England & Wales) Regulations 2004.

Controls under the Clean Air Act 1993

The Clean Air Act 1993 provides a comprehensive control mechanism for the protection of the environment from smoke, dust, grit and fumes from all fires and furnaces with the local authorities as the relevant environmental regulators who can impose limits on dust, emissions and odours generated from a site.

Air Pollution Controls under IPC and IPPC

The provisions of the Clean Air Act above do not apply to processes which are controlled under Part I of the Environmental Protection Act 1990 and the Pollution Prevention Control Act 1999. From Laing O'Rourke's perspective these include, but are not limited to installations such as batching plants, crushing activities, waste transfer stations, landfill sites etc.

Air Quality Monitoring

Measuring & Monitoring Dust:

There are currently no UK limits for the assessment of deposited dust and its ability to cause a nuisance. Reference is made to an annual deposition of 200 mg/m^2/day as a value for the threshold for serious nuisance. In addition, DEFRA's Process Guidance Note 3/16, for crushing activities, for example, does not specify any limits but simply refers to the "avoidance of visible emissions crossing the site boundary". Visual assessment of dust is therefore a key indicator as to whether dust may cause a statutory nuisance.

Care should be exercised when specifying the above as a proposed limit because:

- It does not consider the nature of the dust;
- It is thought to have essentially been derived using the BS deposit gauge (see below) *and is not equally acceptable to all types of deposit gauge;*
- It is an annual average and is therefore not applicable to shorter measurement periods; and
- It has no statutory effect.

Deposit gauges are a simple and accurate method of measuring deposited dust. The dry Frisbee dust deposit gauge can be used to determine the amount of dust produced a month at a time, it uses a bowl and bottle to collect large and small dust particles and should be situated 5m away from any obstruction.

Solvent Emissions

The Solvent Emissions (England & Wales) Regulations 2004 were made in accordance with the Pollution Prevention and Control Act 1999 and essentially implement EC Directive 99/13/EC, the 'Solvent Emissions Directive'.

The Solvent Emissions Directive (SED) aims to reduce emissions of harmful solvents such as carcinogens, mutagens, and compounds harmful to reproduction to the environmental from specified industrial processes. The Directive requires all installations carrying out activities under Annex I (i.e. coating activities) which are operated above the solvent consumption thresholds specified in Annex IIA to comply with certain emission limit values. This includes activities such as spray bays. Activities which exceed the solvent consumption thresholds will be regulated under an IPPC permit issued by the local authority.

Organic solvents are used in a broad range of industrial processes. They are commonly used in coating and cleaning activities. Once released into the atmosphere they can undergo chemical reaction causing the formation of ground level ozone, an air pollutant. High concentrations of ozone can be detrimental to human health and can cause damage to building materials, forests, vegetation and crops. The SED was implemented to reduce the production of ground level ozone. The aim is to cut volatile organic compound (VOC) emissions.

Best Practice

Best Practice requires that receptors sensitive to dust nuisance be identified. In this case, the identified receptors that will be sensitive to dust nuisance will be primarily residential properties that surround and overlook the site. Best practice requires that control measures be put in place to mitigate the impact of dust generation arising from operations on the site. These include:

- Damping down of haul routes with water;
- Ensuring public highways are regularly swept;
- Installing wheel washing equipment at site exits where appropriate;
- Ensure that bulk materials leaving site are covered;
- Install dust screens or silt fencing to prevent the horizontal transportation of dust;
- Use water, where possible, in cutting and grinding activities to suppress dust;
- Ensue that bulk materials likely to cause dust are covered where appropriate;

In addition to this, to suppress dust generation on site the following measures will also be put in place:

- Keep vehicles and plant used on site well maintained and regularly serviced;
- Make sure engines are switched off when not in use; and
- Take account of the wind conditions when arranging activities that are likely to emit aerosols, fumes, odours, smoke and dust.

Dust Suppression Method Statement

The construction of the new ALC and operations associated with site preparation are likely to generate dust that will need to be suppressed in order to minimise nuisance to surrounding properties. Typical operations that are likely to generate dust include:

- Crushing of concrete;
- The creation of haul roads associated with construction;
- Associated earth works; and
- General construction activity

In terms of dust suppression best practice will be followed in order to minimise nuisance and effects.

Prevailing Weather Conditions

To a degree the extent of dust generated will be dependent upon prevailing weather conditions with a higher likelihood of dust being generated during windy and/or dry weather. During these periods all reasonable measures should be taken to prevent annoyance or inconvenience to residents, occupiers, road users or pedestrians due to blown dust or sand.

Associated mitigation measures to suppress dust will include:

- Suppression via the use of water bowsers.
- The sheeting of construction materials delivered and removed from site.
- The sheeting of surplus excavated materials from site.
- The use of defined and appropriately surfaced haulage routes.
- The covering of all storage piles of fine materials with a suitable membrane.

The use of bagged cement in concrete and mortar batching should be carefully considered with the batching area properly constructed, located and controlled to minimise environmental damage from cement dust.

Initial operations and site preparation

As part of site preparation, a discrete exercise of removal and crushing of concrete is required. This is covered in the method statement submitted alongside this statement. This is likely to generate dust. Therefore the associated dust suppression measures undertaken will be as follows when the operation is undertaken:

- During operation the crusher will spray a fine mist spray as materials leave the conveyor belt on to crushed concrete heap – the spoil heap.
- During periods of dry and/or windy weather the spoil heap will be dampened to limit the generation of dust. This is to limit dust inhalation by operatives and the emission of dust to the atmosphere.

Moving of Materials

As part of the concrete crushing operation, it will need to be moved to form a stockpile for future use as the material deposited from the crusher conveyor belt will form part of the ballast associated with the construction project and will require moving to different parts of the site.

Materials will be moved to a permanent stockpile by either:

- A second excavator placing material in a stockpile as the crusher moves; or

- With the crusher remote to the stockpile and dump trucks or loading shovel utilised to move the material to place of storage prior to reuse.

When materials are to be moved by dump truck the crushed concrete will be covered and dampened to suppress dust generation.

ALC Construction

As stated above, it is intended to use the crushed concrete as part of the construction of the ALC. This includes the use of materials in haul roads and as piling mats. When this is undertaken, the material will be dampened prior to use to avoid dust creation and will be regularly check thereafter and dust suppression methods applied.

Traffic Moving to and from Site

As part of the initial operations, no traffic movements are expected to arise from vehicles leaving the site. Nonetheless as construction progresses construction vehicles will enter and exit the site. To suppress dust arising form vehicles leaving the site, wheel wash facilities will be installed at site exits to suppress dust creation. This is shown on the submitted plan. In addition surrounding roads will also be regularly checked and swept in order to suppress dust as construction progresses.