INFORMATION REQUIRED TO SUPPORT A PLANNING APPLICATION FOR COMMERCIAL KITCHEN VENTILATION SYSTEMS

Horsham District Council

This guidance contains details the information that should be submitted for approval by the Local Authority before any ventilation plant is installed. The details required have been taken from 'Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems' published by Defra in January 2005

The aim of any ventilation/extraction system is to ensure that no nuisance, disturbance or loss of amenity is caused to nearby properties by any odours, fumes, food droplets or noise. Additionally, the visual appearance of the flue may be important, and the flue itself may in fact require separate planning permission. Enquiries regarding this matter should be made to the Planning Department on 01403 215187.

A suitably qualified and experienced person with specialist knowledge of ventilation schemes should undertake the design and installation of a ventilation system. Designing and installing appropriate ventilation systems may involve considerable expense.

In circumstances where the end user of the premises is unknown, or where the specific type of food to be cooked is unknown, the installation should be designed to achieve the highest level of odour control in order to cater for the worst case scenario.

There are many different types of odour abatement available (carbon filters, electrostatic precipitation, high dilution and high velocity extraction), and not all types are suitable for all cooking methods. In each case, grease filters must be installed. Please note that any reference to minimum standards within this document is for guidance only and more stringent controls may be deemed appropriate.

To enable the Horsham District Council to assess the suitability of the ventilation scheme, the following information must, where applicable, be provided:

1. Information on premises- The following information should be supplied:

- The number of meals to be served per day;
- The method(s) of preparation and cooking;
- The types of meal served, e.g. fish and chips, Chinese food, Indian food, pizzas or Italian dishes, etc; and
- Proposed hours of operation of the business and any ventilation plant.

2. Plans and drawings- Provide a scaled plan showing the internal arrangement of the premises and the dimensions/location of the ventilation system. The plan must contain external elevations of the buildings showing the dimensions; route; and exhaust characteristics (i.e. appearance) of the ductwork in relation to the building.

The location of **all** filters and the fan must be clearly marked. Where the location of a filter is shown the type must be clearly identified and cross-referenced to the detailed product specification.

3. Pre-filters- A copy of the manufacturer's product data sheet should be supplied clearly showing:

- Manufacturer's name;
- Filter name and product code;
- Dimensions of the pre-filter; and
- Nature of the filter media.
- Manufacturer's recommendations on the frequency and type of maintenance of the pre-filter having regard to the conditions that it will be used under.

4. Electrostatic precipitators (where proposed)- A copy of the manufacturer's product data sheet should be supplied clearly showing:

- Manufacturer's name;
- ESP name and product code;
- Dimensions of the ESP; and
- Flow rate rating.

Manufacturer's recommendation on the frequency and type of maintenance of the ESP having regard to the conditions that it will be used under.

5. Carbon Filters (where proposed)- The details and type of carbon filter units should be identified. A copy of the manufacturer's product data sheet should be supplied that clearly shows:

- Manufacturer's name;
- Filter name and product code;

- Dimensions of the filter panel; and
- The total number of filter panels in the filter bed.

The following information should also be included:

- The nature of the carbon (including product type);
- The frequency of replacement of the carbon units having regard to the conditions that it will be used under. Assumptions to this calculation must be clearly stated, including the frequency and duration of use. Manufacturers should provide recommendations on the frequency/type of maintenance required;
- Total volume of carbon expressed in cubic metres;
- Total mass of carbon expressed in kilograms;
- Total surface area of the panels exposed to the exhausted air; and
- Dwell time of the gases in the filter compartment and the control setting at which this is achieved. The assumptions to this calculation must be clearly stated, and should include the air change rate for the setting quoted.

6. Odour counteractant or neutralising system (where proposed)- The details and type of counteractant or neutralising system should be identified. A copy of the manufacturer's product data sheet should be supplied that clearly shows:

- Manufacturer's name;
- Name of delivery system and product code;
- Counteractant or neutralising chemical to be used;
- COSHH data sheets for chemical to be used; and
- Anticipated counteractant or neutralising delivery rate.

7. Cooker hood- The following information on the characteristics of the cooker hood should be suppliedthat clearly shows the:

- Length that the cooker hood overhangs the appliances;
- Face velocity at the cooker hood, expressed in metres per second; and
- Dimensions of the opening of the cooker hood.

8. System Operation- In addition to the specification of the components the following must be provided about the system:

- Extract rate (expressed as m3/s) at the proposed rate of extract;
- Dwell time of the gases in the carbon filtration zone;
- Volume of the kitchen; and
- Efflux velocity

Note: The system performance is dependant upon the extract rate of the air. Where the rate can be adjusted by the use of dampers or a variable speed fan, then the conditions under which the extract rate can be achieved must be described.

9. Flue Design- The height and velocity of the final discharge are the two important factors. Generally, the greater the flue height, the better the dispersion and dilution of odours. The discharge of air should be at a minimum height of 1m above the roof ridge, especially if there are buildings nearby that may affect odour dispersion and dilution. Where this is not possible (e.g. because of ownership or structural constraints), additional techniques will be required in order to reduce odours, such as an increase in efflux velocity and additional filters, etc. The final discharge should be vertically upwards, unimpeded by flue terminals. The number of bends in the ducting should be minimised and the ducting should have a smooth internal surface.

10. Noise- Data on the noise produced by the system as a whole should be provided including:

- Sound Power Levels or sound pressure levels at given distances (the assumptions to this calculation must be clearly stated);
- An octave band analysis of the noise produced by the system should also be provided, where possible;
- Hours of operation of the ventilation system (where this differs from the hours of opening).

11. Maintenance- A schedule of maintenance must be provided including details for:

- Cleaning of washable grease filters;
- Frequency of inspection and replacement of all filters (grease, pre-, and carbon filters where proposed);
- Inspection and servicing of fans; and
- If schedule is not based on manufacturer's instructions include the reasons why.

12. Additional notes for guidance- The air inlets must not permit pests to enter the kitchen. Fly screens are an example of how this can be achieved.

Sufficient air must be permitted into the premises to replace air extracted. The method for supplying this make-up air should be detailed. The route of the air into the kitchen must not result in its contamination, for example passage through a toilet. Separate provision must be made for ventilation of a toilet.

There must be sufficient access points to permit adequate cleaning of all the ductwork.

Abbreviations: Defra (Department for Environment, Food and Rural Affairs); ESP (Electrostatic precipitators); m3/s (Cubic Metre per Second); COSHH (Control of Substances Hazardous to Health)