

Defra Risk Assessment for Odour

Odour control must be designed to prevent odour nuisance in a given situation. The following score methodology is suggested as a means of determining odour control requirements using a simple risk assessment approach.

SITE: The Constitution Camden

Criteria	Score	Score	Details
Dispersion	Very poor	20	Low level discharge, discharge into courtyard or restriction on stack.
	Poor	15	Not low level but below eaves, or discharge at below 10 m/s.
	Moderate	10	Discharging 1m above eaves at 10 -15 m/s.
	Good	5	Discharging 1m above ridge at 15 m/s.
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Fair	1	Closest sensitive receptor more than 100m from kitchen discharge.
Size of kitchen	Large	5	More than 100 covers or large sized take away.
	Medium	3	Between 30 and 100 covers or medium sized take away.
	Small	1	Less than 30 covers or small take away.
Cooking type (odour and grease loading)	Very high	10	Pub (high level of fried food), fried chicken, burgers or fish & chips.
	High	7	Kebab, Vietnamese, Thai or Indian.
	Medium	4	Cantonese, Japanese or Chinese. High level of grilled food
	Low	1	Most pubs, Italian, French, Pizza or steakhouse.
Total		25	

Impact Risk	Odour Control Requirement	Significance Score*
Low to Medium	Low level odour control	Less than 20
High	High level odour control	20 to 35
Very high	Very high level odour control	more than 35

- based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type:

Discharge stack

The discharge stack shall:

1. Discharge the extracted air not less than 1 m above the roof ridge of any building within 20 m of the building housing the commercial kitchen.
2. If 1 cannot be complied with for planning reasons, then the extracted air shall be discharged not less than 1 m above the roof eaves or dormer window of the building housing the commercial kitchen. Additional odour control measures may be required.
3. If 1 or 2 cannot be complied with for planning reasons, then an exceptionally high level of odour control will be required.

Odour arrestment plant performance

Low to medium level control may include:

1. Fine filtration or ESP following by carbon filtration (carbon filters rated with a 0.1 second residence time).
2. Fine filtration followed by counteractant/neutralising system to achieve the same level of control as 1.

High level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.2-0.4 second residence time).
2. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.

Very high level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.4 –0.8 second residence time).
2. Fine filtration or ESP followed by carbon filtration and by counteractant/neutralising system to achieve the same level of control as 1.
3. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.
4. Fine filtration or ESP followed by wet scrubbing to achieve the same level of control as 1.

Maintenance

Proprietors of commercial kitchens have a duty to ensure that the ventilation system serving the respective premises are maintained and operated effectively. Good maintenance is a prerequisite for ensuring that a

system complies with Best Practicable Means under statutory nuisance provision and will form a key element of any scheme designed to minimise harm to the amenity under planning regulation. Good maintenance is required by the food hygiene regulations and will also minimise the risk of fire. The recommended cleaning period for extract ductwork is:

Heavy Use	12-16 Hours per day	3 Monthly
Moderate Use	6-12 Hours per day	6 Monthly
Light Use	2-6 Hours per day	Annually

Recommendations for maintenance of odour control system include:

- System employing fine filtration and carbon filtration.
 - Change fine filters every two weeks.
 - Change carbon filters every 4 to 6 months.
- Use a system employing ESP and other in line abatement.
 - Clean every 2-6 months