82 Camden High Road

NW1 0LT

Odour Report

07th August 2022
Project No: G0070

Report on Kitchen Extract

Ref: G0070

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1. INTRODUCTION

1.1. Background

In August Goya Works works was instructed by Mr Yusuf to design new extraction system for new kitchen at 82 Camden High Street in support of their planning application.

This report is prepared solely for the use of the person of Mr Yusuf but maybe relied upon by its affiliates, being wholly-owned subsidiaries or wholly owned subsidiaries of its parent/ ultimate holding company. It is not intended that a third party should use this report.

1.2. The Site and Surrounding Area

The site comprises of a ground floor retail unit which located along the center of High Road. The building fronts onto Camden Street which is a busy transport route, connecting Camden and Euston . The site is located within predominantly commercial area with a large number of shops surrounding the site.

2. ODOUR FROM COMMERCIAL KITCHEN EXHAUST SYSTEMS

2.1. Introduction

Offensive and objectionable odours can cause significant adverse effects on the lives of people and their wellbeing. In urban areas problems associated with nuisance odour emissions from commercial kitchen exhausts are very common. Overall responsibility for enforcement of statutory controls rests with the Local Authorities. These responsibilities cross a number of their regulatory functions including:

- Planning
- Environmental Health
- Building control.

There are two reference publications available to Local Authorities in this area both of which are published by the Department for Environment Food and Rural Affairs. These are:

- Odour Guidance for Local Authorities (March 2010)
- Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems (January 2005, **defra**).
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This report has been prepared by following the guidance and methodologies outlined in these documents.

2.2. What is Odour

An odour is an organoleptic attribute perceptible by the olfactory on sniffing certain volatile substances. Odorous substances have a property that makes them perceptible to our sense of smell and the term odour refers to the stimuli from a chemical compound that is volatilised in air. Odours may be perceived as being pleasant or unpleasant and can trigger strong reactions for good reason. Unpleasant odours can be useful indicators to protect us from harm such as the ingestion of rotten food. Whilst normally there is general agreement as to what are pleasant and unpleasant odours there is a wide variation between individuals as to what is deemed to be unacceptable and what affects our quality of life.

2.3. Odour Characteristics and Attributes

There are five basic sensory properties of odour:

1. Detection Threshold – the concentration at which odour is first detected;
2. Recognition Threshold – the ability to differentiate between two odours;
3. Intensity – perceived strength at different concentrations;
4. Hedonic Tone - pleasant or unpleasant;
5. Odour Quality or Character – association and complexity.

Our responses to odours vary greatly between individuals and not all unpleasant odours are offensive at all times. For example coal fire smells can be 'comforting' at times yet the smell of soot can be objectionable at other times. It is argued that when an individual is exposed to an odour perceived as being unwanted the following factors are the main determinants:

- Offensiveness of the odour;
- Intensity of the odour;
- Duration of the exposure to the odour;
- Frequency of the odour exposure; and
- Tolerance and expectation of the exposed subjects.

Studies of environmental exposure to odour at different concentrations over different time periods have led to a number of conclusions as to how individuals perceive odour, and how this is established and then retained in memory. Studies in communities when odour nuisance is abated show that the perception of odour impact is reported for prolonged periods by those living in the area even years after the odour is no longer present. From these studies it is evident that:

- The nuisance suffered is not caused by short-term exposure to environmental odours and similarly are not reduced by short-term mitigation or prevention;
- The association between an individual's perception and experience of nuisance from an odour is persistent and prolonged. For such individuals, exposure to the same odour at lower concentrations causes greater nuisance than for those without a history of exposure; and
- The perception of annoyance/nuisance appears to be cumulative, developing over long periods of time. Memory of periods of heightened or intense exposures alongside other unwanted outcomes such as disturbance to wellbeing or lack of influence are all important. These appear to dominate the overall perception of the odour impact and the perceived history of the complaint.

2.4. Sources of Odour

Defining the origin of an odour, as well as recognising common odour sources are all important aspects of defining the problems presented by odours. Odour sources vary greatly in concentration, hedonic tone and quality even for the same source type. The factors which will influence the magnitude of an odour problem associated with commercial kitchen exhausts will be:

- Size of cooking facility – this will influence the intensity of the odour and the volume of air being discharged;
- Type of food being prepared – this affects the chemical constituents within the discharge air;
- Type of cooking appliances used- this dictates the level of fat, water droplets and the temperature within the discharge air.

The degree of dispersion, proximity of receptors, size of kitchen and the cooking type will contribute to the odour problem to a greater or lesser degree.

The characteristics of different food types and cooking appliances is given the following table:

Establishment	Description	Odour Concentration				Grease Content			
		Low	Moderate	High	Very High	Low	Moderate	High	Very High
Tea Shop	-	■				■			
Pizza Parlour	Herb		■				■		
Steakhouses	Fat		■				■		
French	Herbs/garlic		■				■		
Italian	Herbs/garlic		■				■		
Most Pubs	Fat		■				■		
Chinese	Ginger, spice, oil		■					■	
Japanese	Spice, oil		■					■	
Cantonese	Spice, oil		■					■	
Indian	Spice, oil			■				■	
Thai	Spice, oil			■				■	
Vietnamese	Spice, oil			■				■	
Kabab Houses	Fat, cooking meat			■				■	
Fried Chicken	Oil, cooking meat				■				■
Pubs (Deep fired food)	Oil, cooking meat				■				■
Fish and chips	Oil				■				■
Fast Food (burger)	Oil, cooking meat				■				■

2.5. Risk Assessment for Odour

Appendix C of the Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems gives a simplified risk assessment. The scoring methodology is suggested as a means of determining if odour control is required in proposed installations.

Criteria	Score	Score	Details
Dispersion	Very poor	20	Low level discharge, discharge into courtyard or restriction into stack
	Poor	15	Not low level but discharge below eaves or discharge > 10m/s
	Moderate	10	Discharge 1m above eaves or discharge 10 to 15 m/s
	Good	5	Discharge is 1m above ridge at 15 m/s
Proximity of receptors	Close	10	Closest sensitive receptor <20m from kitchen discharge
	Medium	5	Closest sensitive receptor between 20m & 100m from kitchen discharge
	Far	1	Closest sensitive receptor >100m from kitchen discharge
Size of kitchen	Large	5	>100 covers or large takeaway
	Medium	3	>30 to <100 covers or medium takeaway
	Small	1	>30 covers or small take away
Type of kitchen	Very high	10	Pub (deep fried food), fried chicken, burgers, fish and chips
	High	7	Kebab, Vietnamese, Thai or Indian
	Medium	4	Cantonese, Japanese or Chinese.
	Low	1	Most pubs, Italian, French, Pizza or Steakhouse

Impact	Odour Control requirement	Significance Score
Low to Medium	Low level of odour control	< 20
High	High level of odour control	20 to 35
Very high	Very high level of odour control	>35

2.6. Odour as a Statutory Nuisance

Nuisances caused by odours are regulated by the relevant provisions within the Environmental Protection Act (EPA) 1990. Section 79(1)(d) of the EPA consolidated various atmospheric pollution that was previously regulated under the Public Health Act 1936. Smell and steam were added to the list of atmospheric pollution.

The EPA also imposes a duty on the local authority environmental services to 'inspect' their districts from time to time for statutory nuisances. In addition they have a duty, where ever reasonably practicable, to investigate any complaint made about alleged odour nuisance made by a member of the public / resident.

Like all other statutory nuisances set down in Section 79 EAP 1990 the odour provisions are two-limbed. There is a requirement for the local authority to decide if the odour is prejudicial to health or a nuisance (or both).

Private Nuisance is a continuous, unlawful and indirect interference with the use or enjoyment of land, or of some right over or in connection with land. The emissions would have to interfere, in a material or substantial way, with the victim's use of his property. You take civil proceedings for nuisance ("private nuisance") in the High Court or County Court.

An alternative approach is to follow the statutory nuisance procedure which involves going to the Magistrates Court. This is laid out in the Environmental Protection Act 1990 (sections 79 to 82). It is based on similar principles to private nuisance, but it is intended to enable people to get relatively quick relief through the most local court system. The EPA 1990 provides two routes: one for local authorities to act (often following complaints to them, though also on their own volition), and another which allows people to act directly, without involving the local authority. Under the nuisance limb interference in a person's 'personal comfort' is required. However the standard applied is an objective one so where a particularly sensitive victim experiences as significant interference in their 'personal comfort' which an average person would not, there can be no statutory nuisance.

3. RISK ASSESSMENT AND VERIFICATION SITE VISITS

3.1. Risk Assessment

Based upon the methodology set out in Appendix C of Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems we carried out the following risk assessment.

Impact	Odour Control requirement	Significance Score
Low to Medium	Low level of odour control	< 20
High	High level of odour control	20 to 35
Very high	Very high level of odour control	>35

Source	Dispersion	Proximity of receptors	Size of Kitchen	Cooking Type	Total Score
82 Camden High Road	5	10	3	7	25

3.2. Verification Site Visit

The risk assessment suggest that very high level of odour usually admitted from type of cuisine named 'kebap' in particular. Furthermore, assessing and testing at two different point which are located within the project site determined the odour in the vicinity. The system that will be utilized is sufficient and adequate to neutralize the odour according to our investigation.

4. SYSTEM DESCRIPTION AND RECOMMENDATIONS

4.1. System Description

The proposed kitchen system at 82 High Street Road as per the risk assessment table above is considered to be medium in size. All the kitchen equipment are both gas and electric supply.
Equipments respectively;

- Flat Griddle.
- Double Induction Cooker.
- Double Fat Fryer.
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The above-listed equipment are located under the designated canopy is 2400x1100 mm I shaped extract canopies with integral grease filters.

4.2. Design

All units to be used are designed to prevent odours and oil emissions. This system is designed to prevent odour emissions which may affect neighbours or the surrounding area. If necessary, the system can be improved by supplementing the ozone odour neutralizer healing system.

EXECUTIVE SUMMARY

In August 2021 Goya Works was instructed by Yusuf Samed to assess the new kitchen extract system at 82 Camden High Road in support of their planning application.

The size of the kitchen can be considered as a medium restaurant. The type of **kebab category (only serves breakfast and do not utilize charcoal grill)** cooked within the proposed site emits high amounts of odour in concentration. The exhaust is discharged 1m above eaves level at a point that is discharged to the air.

The system requires 1 m3/s air. Therefore, the system was designed to achieve a **0.2 dwell time** rating by x3 activated carbon filter sites when coupled with ESP3000E and for odour neutralizer equipment as ON100. The risk assessment has been undertaken and the score was found to be **25/45**.

According to the conducted tests, the risk assessment score is very high, therefore, it is recommended that the system should be consist of respectively;

- x3 Activated Carbon filter site manufactured by Purified Air
- ESP3000E by Purified Air
- ON100 Odour neutralizer
- GBW355/4

After the implementation of the above equipment, 95% odour will decrease.
In conclusion, the kitchen size is big. The distance of the extract flue, the direction and with additional mitigation with high quality of filters the impact on the neighbours will be very low.