Report VA5077.240313.DOA

109 Pinner Road, Northwood

DEFRA Odour Assessment

13 March 2024

Van Lear Ltd
7 Hollyview Close
Hendon
NW4 3SZ

VENTA ACOUSTICS

01962 461016
0203 8650332
mail@ventaacoustics.com

registered company no. 10139494

Contents

Attachments

1. Introduction

A new kitchen extract system has been installed to service the kitchen at 109 Pinner Road, Northwood. This kitchen is intended for use to prepare Indian snacks and takeaway food.

As part of the planning requirements an odour assessment is required following the EMAQ+ *Control of Odour and Noise from Commercial Kitchen Exhaust Systems* (2018) guidance to demonstrate to the Local Authority that odour can be controlled so as to not cause nuisance to nearby residences.

2. Site Description and Proposed Installation

Whilst on site undertaking the environmental noise survey, observations were made with regards to the nearest residences and proposed routing for the ductwork for the kitchen extract system, ascertained from the site drawings.

The nearest affected receptors are the dwellings opening onto the courtyard in which extract fan is located. The nearest is approximately 3m from the kitchen discharge

The assessment is based upon the information and drawings provided by the architect, M&E engineer and the client regarding the duty, duct velocities and filters in the system.

The following components are understood to be included in the system:

Component	Type	Notes
Fan	TCBBX2/4-500	Discharging away from nearest windows
Carbon filter		TBC
Discharge duct	500mm dia	Within courtyard
Duct cowling	None	Un-interrupted horizontal dispersion of air

Table 2.1 – System components

2.2 Odour Assessment

A risk assessment of the proposals has been undertaken in accordance with the EMAQ+ *Control of Odour and Noise from Commercial Kitchen Exhaust Systems* (2018) Appendix 3: Risk Assessment for Odour, updates and supersedes the DEFRA document *Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems* (2005).

This uses the factors summarised in the following table to assess the potential for odour negatively impacting nearby residences.

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:

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.
	Far	1	Closest sensitive receptor more than 100m from kitchen discharge[1].
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[1].
Cooking type (odour and grease loading)	Very high	10	Pub (high level of fried food), fried chicken, burgers or fish & chips. *Turkish, Middle Eastern or any premises cooking with solid fuel*
	High	7	Vietnamese, Thai, Indian, *Japanese, Chinese, steakhouse*
	Medium	4	Cantonese, *Italian, French, Pizza (gas fired),*
	Low	1	Most pubs (*no fried food, mainly reheating and sandwiches etc*), *Tea rooms*[1]

Note 1: A planner may take a pragmatic view when assessing whether certain low risk kitchens require any odour abatement to be fitted. In reaching this decision the Planner may consider the nature of the food being cooked and/or the size of kitchen and/or its location.

Figure 2.2 – EMAQ+ Appendix 3 risk tables

Following review of the drawings and using the criteria shown in Figure 2.2, a score has been provided for each element of the system, including level of discharge, proximity of receptors, size of kitchen and cooking type.

The score for the system is as below when based upon Appendix 3: Risk Assessment for Odour.

Criteria	Score	Notes
Dispersion	20	Discharge is into a courtyard area
Proximity of receptors	10	The closest receptor is approximately 3 m from the kitchen discharge
Size of kitchen	1	Small take away
Cooking type	7	Indian food
Total Score	**38**	High Impact Risk – High level odour control required

Table 2.2 – Odour assessment

The score afforded indicates that the system will require a very high level of odour control to mitigate odour levels to an acceptable score.

3. Mitigation

The type of odour abatement system that complies is as below, taken directly from the EMAQ+ Guidance and must be to a very high level of control.

3.1 Recommended Levels of Mitigation from EMAQ+ Guidance

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).

or

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.

In some instances where very high levels of control are required combinations or sacrificial levels of filtration may be employed.

Maintenance must be carried out to ensure these performance levels are always achieved.

4. Conclusion

An assessment has been undertaken in accordance with Appendix 3 of EMAQ+ *Control of Odour and Noise from Commercial Kitchen Exhaust Systems* (2018), based upon the provided drawings and specifications from the design team.

Provided the recommended mitigation measures are adopted, the guidance would indicate that nuisance would not occur due to the kitchen extract system.

Care should be taken to ensure the system is maintained and cleaned in accordance with the manufacturers' guidance, especially regarding filtration.

Steven Liddell


Most Affected Receivers
Installed New Plant Location