

Report VA3460.201211.DOA

229c London Road, Reading

DEFRA Odour Assessment

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Attachments

VA3460/SP1 Indicative Site Plan

1. Introduction

An evaluation of the existing kitchen extract system servicing the kitchen at Reading Pizza, 229c London Road, Reading has been requested by the Council's Environmental Health Department. This kitchen is intended for use to prepare a range of food including pizza, peri peri chicken, burgers, kebabs and chips.

As part of the planning requirements an odour assessment is required following the Defra *Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems* (January 2005)/ 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 routing of the ductwork for the kitchen extract system.

The nearest affected receptor is at second floor level approximately 4m from the kitchen discharge.

2.1 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. <i>Turkish, Middle Eastern or any premises cooking with solid fuel</i>
	High	7	Vietnamese, Thai, Indian, <i>Japanese, Chinese, steakhouse</i>
	Medium	4	Cantonese, <i>Italian, French, Pizza (gas fired),</i>
	Low	1	Most pubs (<i>no fried food, mainly reheating and sandwiches etc</i>), <i>Tea rooms</i> 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 2.1 – DEFRA/EMAQ+ Appendix 3 risk tables

Following review of the drawings and using the criteria shown in Figure 2.1, 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	15	Discharge is below eaves.
Proximity of receptors	10	The closest receptor is approximately 4 m from the kitchen discharge
Size of kitchen	5	Medium take away
Cooking type	10	Pizza, burgers, chicken, kebabs, chips
Total Score	40	Very High Impact Risk – Very high level odour control required

Table 2.1 – 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

It is unknown what measures the extraction system currently incorporates. However, to meet the requirements of the guidance, the type of odour abatement system that complies is as below, taken directly from the DEFRA/EMAQ+ Guidance and must be to a very high level of control.

3.1 Recommended Levels of Mitigation from DEFRA/EMAQ+ Guidance

Odour arrestment plant performance

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 Defra *Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems* (January 2005)/Appendix 3 of EMAQ+ *Control*

of Odour and Noise from Commercial Kitchen Exhaust Systems (2018), based upon observations made during the site visit.

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.

Jamie Duncan

