ODOUR RISK ASSESSMENT

Project: Proloco
System: Kitchen Extraction & Odour Control

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1. Introduction

This Odour Risk Assessment has been prepared in support of the discharge of Planning Condition 19 for the proposed commercial kitchen at **Proloco**.

The purpose of this report is to demonstrate that suitable extraction, filtration and odour control measures have been incorporated into the kitchen design to minimise the potential impact of cooking odours on neighbouring occupiers.

This assessment has been prepared with reference to the **DEFRA Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems (January 2005)**, with particular regard to the methodology contained within **Annex B**.

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2. Proposed Development

The proposed development comprises the installation of a commercial kitchen serving a pizza and pasta restaurant.

The cooking operation will comprise the preparation of fresh pizzas and pasta dishes together with limited fried menu items.

The proposed cooking equipment consists of:

- 2 No. Countertop electric fryers
- 2 No. Countertop induction hobs
- 1 No. Electric pizza deck oven

All cooking appliances are electrically powered.

No solid fuel appliances, charcoal grills, open flame cooking or gas-fired chargrills are proposed.

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3. Assessment of Odour Risk

In accordance with the DEFRA Guidance, the proposed cooking operation has been assessed as presenting a **Medium to High Odour Risk**, primarily due to the operation of the countertop fryers together with general cooking activities associated with pizza and pasta preparation.

Potential odour sources include:

- Heated cooking oils

- Frying operations
- Cheese and pizza toppings
- Pasta sauces
- Steam and cooking vapours

To minimise the release of cooking odours, all cooking appliances will be located beneath a dedicated commercial extraction canopy.

Cooking emissions will be captured directly at source before passing through grease filtration and odour control equipment prior to atmospheric discharge.

Sensitive Receptors
The proposed restaurant is located at ground-floor level within a mixed-use development with residential apartments above the commercial premises. Residential occupiers are therefore considered sensitive receptors for the purposes of this assessment.
In accordance with the DEFRA/EMAQ Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, residential properties represent sensitive receptors where cooking odours have the potential to cause nuisance if not adequately controlled.
Odour Risk Classification
Having regard to the nature of the proposed cooking operation, including limited frying activities but excluding solid fuel cooking, the proposed use is assessed as a Medium to High Odour Risk operation prior to mitigation.

Following implementation of the extraction, filtration and odour control measures detailed within this report, the residual odour risk is considered to be Low to Medium.

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4. Proposed Extraction & Odour Control System

The proposed extraction system has been specifically designed for the intended cooking operation and consists of:

- PMJ Type stainless steel wall-mounted extraction canopy
  - Dimensions: **2400mm × 1200mm × 500mm**
- Stainless steel baffle grease filters
- Integral grease collection drawers
- LED canopy lighting
- Commercial extract fan complete with speed controls
- Acoustic silencers
- Approximately **12 metres** of galvanised ductwork
- External discharge terminating above the existing window
- PMJ Controlled Ozone **Co20** odour control system

The PMJ Controlled Ozone Co20 injects a carefully controlled quantity of ozone into the extraction ductwork where it oxidises odorous cooking compounds before discharge to atmosphere.

The ozone generation system incorporates an airflow pressure switch ensuring ozone is only produced whilst the extraction system is operational, providing safe and controlled operation.

The Controlled Ozone system has been selected to significantly reduce cooking odours whilst maintaining ozone discharge within accepted industry guidance.

4A. DEFRA/EMAQ Odour Mitigation Hierarchy
In accordance with the DEFRA/EMAQ Guidance, the extraction system incorporates multiple stages of odour control.
Stage 1 – Capture at Source
All cooking appliances are positioned beneath a dedicated extraction canopy designed to capture cooking emissions as close to source as practicable.
Stage 2 – Grease Filtration
Stainless steel baffle filters remove grease particles and contaminants from the extract

airstream.

Stage 3 – Odour Abatement

The PMJ Controlled Ozone Co20 system oxidises odorous compounds within the extract ductwork prior to discharge to atmosphere.

Stage 4 – Atmospheric Dispersion

Treated air is discharged via dedicated ductwork to atmosphere in order to maximise dilution and dispersion of any residual odour.

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5. Replacement Air

Adequate replacement air will be provided to ensure efficient operation of the extraction

system. Replacement air will maintain balanced airflow within the kitchen, ensuring:

- Effective capture of cooking fumes.
- Efficient operation of the extraction canopy.
- Reduced negative air pressure.
- Improved comfort for kitchen staff.

The replacement air provision forms part of the overall kitchen ventilation strategy.

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6. Cleaning & Maintenance Regime

To ensure the extraction system continues to perform effectively throughout its operational life, the following maintenance schedule will be adopted.

Equipment	Frequency
Baffle grease filters	Clean weekly (minimum)
Grease collection drawers	Weekly
Internal canopy surfaces	Monthly
Extract fan inspection	Every 6 months
Ductwork inspection	Every 6 months
Full duct cleaning	In accordance with BESA TR19 Grease
PMJ Controlled Ozone Co20	Service in accordance with manufacturer's recommendations
Complete extraction system	Annual inspection by a competent engineer

Maintenance records will be retained by the operator and made available upon request.

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7. Noise, Odour and Amenity Assessment

The proposed extraction system incorporates several features specifically intended to reduce environmental impact, including:

- High-efficiency stainless steel grease filtration.
- Controlled ozone odour treatment.
- Acoustic silencers fitted to the extract fan.
- Dedicated commercial extraction canopy providing source capture.
- Controlled discharge via dedicated ductwork.

These measures have been incorporated to minimise the potential for nuisance to neighbouring properties.

The DEFRA/EMAQ Guidance requires consideration of both odour and noise impacts associated with commercial kitchen extraction systems. The proposed installation includes acoustic silencers, enclosed ductwork and planned maintenance measures designed to minimise potential amenity impacts on neighbouring occupiers

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8. Technical Equipment

The proposed kitchen extraction installation comprises:

Equipment	Specification
Extraction Canopy	PMJ Type Wall Canopy 2400 × 1200 × 500mm
Grease Filtration	Stainless steel baffle filters
Grease Collection	Integral removable drawers
Extract Fan	Commercial extract fan with speed controls
Noise Attenuation	Acoustic silencers
Ductwork	Approx. 12m galvanised steel ductwork
Odour Control	PMJ Controlled Ozone Co20

Manufacturer's technical literature accompanies this report.

8A. DEFRA/EMAQ Odour Risk Assessment Matrix

Assessment Factor	Assessment
Cooking Activity	Pizza, pasta and limited frying
Initial Odour Risk	Medium–High
Residential Receptors Present	Yes
Solid Fuel Appliances	No
Grease Filtration	Provided
Odour Treatment	PMJ Controlled Ozone Co20
Maintenance Regime	Comprehensive
Residual Odour Risk	Low–Medium

Taking account of the proposed mitigation measures, the residual risk of odour nuisance is considered acceptable for the proposed use

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9. Conclusion

This assessment has been prepared with reference to the DEFRA/EMAQ Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems and the methodology contained within Annex B.
The proposed cooking operation has been assessed as a Medium to High Odour Risk activity prior to mitigation due to the inclusion of frying operations. Residential apartments above the commercial premises have been considered as sensitive receptors within this assessment.
The extraction system incorporates:

- Source capture via a dedicated extraction canopy.
- High-efficiency grease filtration.
- PMJ Controlled Ozone odour treatment technology.
- Acoustic attenuation measures.
- Planned cleaning and maintenance procedures.
- Dedicated extraction ductwork and atmospheric discharge arrangements.

The combined mitigation measures are considered to provide an appropriate level of odour control for the proposed development. Following mitigation, the residual odour risk is considered **Low to Medium** and the proposed extraction and odour control strategy is therefore considered consistent with the recommendations of the DEFRA/EMAQ Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems