Loss Prevention Standards – Asset Classes

Commercial Kitchens - Extract Systems and Cooking Ranges

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Commercial cooking ranges are present within many buildings. This document provides details of the hazards they pose and guidance to reduce the fire risks associated with them.

Commercial Kitchens – Extract Systems and Cooking Ranges

Introduction

Commercial kitchen ranges and their integral extract ducting are located within many buildings such as restaurants, hotels, airports, fast food outlets, works canteens and shopping centres.

Cooking activities present a variety of fire risks which need to be identified, fully assessed and appropriately controlled, to prevent damage to property and any associated interruption to the business. It is therefore essential that kitchen ranges and extract ducting systems are suitably designed, installed and maintained, with inspection and cleaning undertaken at appropriate intervals and the provision of suitable fire detection and fire protection measures.

It is generally accepted that a significant percentage of all commercial fires are kitchen-related, with most occurring within the canopy above the cooking range and the associated extract ducting, primarily due to the build-up of combustible cooking oil deposits and fats that accumulate over a period of time. This data also indicates that a poor duct cleaning regime was a significant contributory factor to these fires.

Fires also occur in the kitchen itself, either on or within the cooking range below the extraction system, or within adjacent cooking equipment. Provided these fires do not spread to the extract ducting they are 'generally' easier to contain and extinguish.

This is especially true if there are:

- Automatic or manually actuated fixed fire suppression systems in place
- Appropriate interlocks to de-energise or isolate the firing or power to the cooking equipment
- Trained personnel who are able to use fire blankets and/or manual fire extinguisher appliances of the appropriate type, which are designed for fires involving hot cooking oils and fats

Inadequate kitchen and ducting inspection and cleaning procedures; the lack of fixed fire protection for the cooking range and extract ducting; and ineffective fire compartmentation provides an environment for fires to start and then to spread quickly or widely.

Risk Assessments

In England and Wales, under the Regulatory Reform (Fire Safety) Order 2005 and equivalent national legislation in Scotland and Northern Ireland, a requirement is placed on the 'Responsible Person' (owner, occupier or person with control) to make sure that action is taken to prevent fires and protect the lives of building occupants.

To meet this general requirement as part of a robust risk management system, an organisation should carry out and maintain a 'suitable and sufficient' fire risk assessment for the premises. This should:

- Identify any fire hazards
- Eliminate, reduce and manage the risk from fire as far as practicable
- Create a plan to deal with any emergency

Due to the high risk of fires associated with extract ductwork, kitchen extraction systems warrant very close attention and should be included in the fire risk assessment.

Fires should be considered as preventable and therefore any time or resource spent improving fire safety and carrying out detailed fire and/or other risk assessments could help:

- Save the lives and/or prevent injury of employees and customers
- Minimise property damage
- Minimise disruption to a business

The best practice guidance set out in the Building Engineering Services Association (BESA) TR 19 Grease Specification for Fire Risk Management of Grease Accumulation within Kitchen Extraction Systems, available from the BESA website should help inform this assessment. It should also be used to identify the necessary steps to be taken in the future, including maintenance, to help ensure that kitchen extraction systems remain safe at all times.

Further guidance can also be found in the UK from the Fire Protection Association (FPA) in their RISCAuthority publication RC68 – Recommendations for Fire Safety in Catering Establishments, refer FPA Risk Guidance Documents.

Alongside the above, it is crucial that organisations have robust management systems in place for employee training, housekeeping and maintenance as part of a joined-up risk management strategy.

Causes of Kitchen-Related Fires

Known causes of fires within commercial kitchens are as follows:

- Spontaneous combustion of fat deposits that have built-up within the extract filter, canopy, plenum and/or ductwork
- Short circuit or overheating of an electrical appliance (e.g. a fan) in the extraction ductwork, causing a spark or heat to ignite any grease/fat build-up within the extract filter, canopy, plenum and/or ductwork
- A spark, flame, ember or hot gas that travels from the cooking range into the extract filter, canopy, plenum and/or ductwork and ignites any fat build-up
    - Attention should also be given to pizza ovens, tandoor ovens, etc.
- Extract ducting which can be extensive and circuitous in design, before exiting the building making it difficult to clean throughout
    - Poor design that results in increased accumulation of combustible fat, oil and grease deposits in extract ducting
- Overheating and/or spilling of oils, grease and fats either on the cooking range or deep fat fryer
- Overfilling of fryers when changing or replenishing oil
- Spillage of cooking oils/fats in the kitchen area
- Operation of deep fat fryers with insufficient depth of oil to adequately cover the heating elements
- Cooking equipment thermostat failure and failure of an over-temperature cut-out device
- Heat sources such as electrical plates, ovens, grilles, bratt pans, griddles, broilers, rotisseries, frying equipment, etc., or ancillary processes involving flames or production of hot gases
- Cooking equipment left unattended during operation
- Ignition of ordinary combustible items within the kitchen such as towels, aprons, paper, cardboard, packaging, etc.
- Operator error such as an individual doing something incorrectly
- Hot work on extract ducting or close to the extraction network

Fire Protection and Methods to Reduce the Incidence of Kitchen Fires

One of the most important factor in reducing kitchen fires is to prevent the build-up of combustible fat-contaminants within the non-combustible extract ductwork. There are a number of methods that can aid this objective, the most important being an effective deep clean of the whole extraction system by an accredited cleaning contractor. This provides far greater assurance that the cleaning and maintenance of ductwork systems has been carried out correctly. The contractor should be third party certificated under one of the following accreditation schemes:

- BESA Vent Hygiene Register
- Loss Prevention Certification Board scheme LPS 2084 Requirements for the approval and listing of companies carrying out inspection, cleaning and maintenance of ductwork systems

Further benefits of using accredited contractors include:

- Supporting compliance with fire safety legislation
- Work will be undertaken in accordance with BESA TR19 Grease guidelines which will help reduce fire risks
- Avoids wasting resources searching for and engaging with inappropriate service providers
- Ensuring that appropriately trained and competent individuals undertake cleaning work
- Identification and recording of areas of 'limited' or 'restricted access', where inspection, cleaning and maintenance are impractical and reporting these limitations to the client
- Documentation and correct reporting for the work undertaken to satisfy TR19 Grease guidelines
- Provide recommendations for access improvements to better facilitate the ongoing cleaning and maintenance of the ductwork system
- Accredited companies are audited to ensure that they continue to meet high standards of workmanship and adhere to the requirements of TR19 Grease and the accreditation scheme

It is very important that all kitchen extract duct cleaning undertaken fully complies with the BESA TR19 Grease best practice guidelines. This should be made clear to the cleaning contractor when inviting tenders to carry out the work.

Cleaning regimes should also comply with any policy conditions that may apply to insurance policies in relation to cleaning intervals.

The frequency of cleaning should be based on a detailed risk assessment which should:

- Measure the quantity of cooking fats, oils and grease contaminants deposited on the internal surfaces throughout the entire length of the ductwork
- Establish the rate of build-up, taking into consideration the:
  - Type and nature of the cooking
  - Number of hours that cooking is carried out

Further guidance in this document and TR19 Grease provides information as to how often this cleaning should ideally be completed.

There are a number of other practices which will help to eliminate or reduce the severity of fires, such as:

- Appropriately trained employees
- All extract ducts should be constructed from non-combustible materials, such as galvanised or stainless steel
- Ducting should house appropriate number of inspection hatches and drain points
  - Provision of adequate access panels at approximately 2-metre spacing should allow proper inspection and appropriate access for a full deep clean to all areas of the extraction network
- Attention should be given to the routing of the extract ducts
  - The most direct route out of the building with minimal number of bends is the most beneficial

- Appropriate fire compartmentation should be provided within the building and if a duct passes through a fire compartment wall or floor, attention should be given to this breach and appropriate compartmentation devices provided
    - Fire rated ducting can be provided
- Regular cleaning of all equipment, including deep cleaning of the entire extract ductwork, based on a risk assessment
- Regular servicing and maintenance of all cooking equipment/appliances and electrical installations as part of a preventative maintenance programme
- Suitable automatic fire detection in every room/area, based on a BS 5839 P1/M design
- Automatically and manually actuated safety interlocks to isolate power and/or natural gas supplies to the cooking range
- Automatic safety interlocks so that the cooking equipment cannot be operational without the extraction network operating
    - Cooking ranges should not be able to operate without the extract system being fully operational
    - These interlocks should be tested as part of the regular maintenance regimes
- Appropriate thermostat controls to be fitted to equipment such as deep fat fryers
    - These controls should be tested as part of the regular maintenance regimes
- Cooking oils and fats should be changed regularly
- Cooking equipment, especially deep fat fryers, should not be operated and left unattended
- Fixed, approved and listed automatically and manually actuated fire suppression systems should be installed (e.g. Ansul R-102, Amerex KP, Nobel K-Series)
    - Incorporating automatic isolation of the power or gas supply to the equipment, in the event of activation
- Formal emergency procedures should be in place
- Adequate and suitable manual fire extinguisher appliances should be provided
- Fire blankets should be present
- UV filtration
- Negative pressure fan extraction

Employee Training

All kitchen employees (covering every shift and including contractors) should receive suitable formal and recorded training each year, and/or when changes to staff occur, covering the:

- Acceptable housekeeping and working practices
- Risks involved in the cooking area, including that within the ducting network
- Automatic fire detection system
- Automatic power and/or natural gas supply safety interlocks
    - and their manual activation devices
- Fire suppression system
    - and its manual activation devices
- Use of fire blankets
- Selection and use of the most suitable form of manual fire extinguishing appliance for use on cooking oils, etc.

Fire Compartmentation, Fire-Resistant Ducting and Ducting Exit Point

There should be a thorough understanding of the fire compartmentation strategy of the site, including the routing or proposed routing of the extraction ductwork network (including any changes in direction/bends) and what fire compartment walls or floors (if any) it passes through. Additionally, there should be a full understanding of the duct

exit point, the location of the extract ducting and what this potentially exposes, e.g. combustible roof deck; combustible wall construction; yard storage; roof mounted equipment, etc.

Recognised fire-resistant ducting should be installed within all fire compartments to limit fire and smoke spread throughout the building. Where the ducting passes through any fire compartment walls this vulnerability should be assessed and appropriate protection provided.

The number of bends/changes in direction of the extract ducting should be kept to a minimum and should ideally be zero.

- Changes in direction cause the entrained fat droplets within the air to be deposited on the ductwork wall.

The point where the ducting exits a building should be fully assessed. This should include an assessment of the wall or roof construction and in particular any combustible construction or combustible exposure. A fire in the ducting will exit at this point and could possibly ignite the construction or a combustible exposure. This exit point should be regularly reviewed to monitor fat/grease deposits and cleaned.

Where the ducting passes through any combustible construction, the construction needs to be protected from excessive heat and the ducting encased in materials affording at least 1 hour fire-resistance. BESA have produced publications, such as DW/172 Specification for Kitchen Ventilation Systems and DW/144 Ductwork, which provide further guidance on fire resistance requirements. Refer the BESA website.

Case Study: A fast food restaurant in an airport had a fire involving the kitchen's extract duct that was not fire rated or located in a fire compartment. This resulted in extensive fire and smoke damage to the restaurant and other parts of the terminal building, leading to the temporary closure of the airport's terminal building for clear-up and cleaning.

Fire Suppression Systems and Associated Safety Interlocks

Commercial kitchen ranges should always be fitted with and protected by an automatically and manually actuated fire suppression system. The choice of fixed fire suppression systems should be subject to a risk assessment, undertaken by a competent person, and be suitable for the risk.

Water-misting systems may be appropriate in certain circumstances, to protect particular risks, but should not be used for long duct runs where there is potential for water-mist to condense and run back onto a cooking surface.

Fixed fire suppression systems installed in commercial kitchens should be tested and approved to an appropriate standard, such as:

- LPS 1223: Requirements and testing procedures for the LPCB certification and listing of fixed fire extinguishing systems for catering equipment

Heat sensitive fusible link valve located in extract plenum which activates suppression system.

The fire suppression system should be designed and installed by an engineer with third party certification, such as the BAFE Kitchen Fire Suppression Systems Scheme SP206 covering the design, installation, commissioning, recharge and maintenance of kitchen fire suppression systems from an independent UKAS accredited third party certification body.

The suppression system should be installed to protect the:

- Cooker hood/cooking range below
- Filter section

- Extract ducting

The length of ducting protected should be based on the exposure/risk, the fire compartmentation, the building construction, the discharge point, etc.

The system should be designed to actuate both automatically and manually:

- Automatically - based on an appropriate fire signature automatic fire detection device, e.g. heat detection, frangible bulb or fusible element
- Manually - there should also be at least one manual activation device (ideally two) located in a readily accessible and safe locations, ideally on at least one emergency exit route from the cooking area

Fire suppression systems should be regularly inspected, serviced and maintained under contract with an approved company, in accordance with manufacturer's guidelines - normally with a minimum of 6-monthly intervals.

Automatic and manually actuated safety interlocks should be in place, to shut down the cooking appliances by isolating the gas and/or power supplies.

- This will help ensure the fire is suppressed
- Failure to disconnect the electrical power or gas supply to the protected cooking equipment could lead to reignition of the fire, due to continued heating instead of cooling of the overheated grease

As with the fire suppression system, the manually activated device(s) to isolate the power and/or natural gas supplies should also be located in a readily accessible and safe location, ideally on at least one emergency exit route from the cooking area.

- Where provided, any make up or supply air fans, internal to the exhaust hood(s) being protected, should also be interlocked to isolate upon protection system activation
- The safety interlocks and emergency stops should be serviced, maintained and tested to ensure they work correctly, on a regular basis by specialist contractors

In the event of fire, depending on the extinguishing media used, the duct extraction exhaust fans should be left on. The forced draft of these fans will assist the movement of the liquid extinguishing agent through the extraction system, thus aiding in the fire suppression process. These fans can also help provide a cooling effect in the plenum and duct, after the fire suppression agent has been discharged.

Note: Where the extraction fans are actually interlocked to shut down rather than left to run, an appropriately designed extinguishing system should be able to operate effectively as designed (and tested). For example, in the event of 'fire alarm' activation, which may automatically shut down any extraction system.

Note: If the building fire alarm system for a kitchen/building goes into alarm, the gas and/or power supplies to the cooking equipment, etc. (as above) should also be automatically interlocked to shut down/isolate.

Deep Cleaning and Frequency

Aside from the build-up of a combustible lining in a non-combustible duct, the build-up of fat deposits in an extract duct can affect the efficiency of the extraction system. As a result, it is essential that all parts of the extraction ducting are readily accessible to enable cleaning, including any motors and fans.

An inspection of the system by an accredited specialist cleaning company engineer should confirm that suitable access is available to the entire ductwork system. Deep cleaning frequency of the entire extract duct, fan and motors should be based on a risk assessment. Specialist accredited contractors should provide relevant and adequate information and in accordance with BESA TR19 Grease requirements. A TR19 Grease compliant report will include :

- Completion certificate(s)

- Pre and post-clean readings of grease levels throughout the extraction ductwork system
- Pre-agreement with the customer of a specific section or area that is not to be cleaned
- A clear statement (Yes or No) indicating whether or not the system was cleaned in its entirety
    - If the answer is No, the report must state precisely what was not cleaned and why
- A recommendation for cleaning frequencies based on the pre-clean grease thickness test readings
    - In order to calculate a frequency based on keeping grease levels below 200 microns (the maximum level) as a mean across the system, the rate of build-up of grease needs to be assumed to be linear over time and therefore the recommended new frequency should be calculated using BESA's predictive accumulation assessment table and included in the report
    - Readings of grease levels (in microns) for the stated test locations and the mean (average) micron reading across all micron readings should also be included
- A sufficient number of photographs of the system taken before and after cleaning that are representative of the system condition
- A schematic diagram or, as-installed drawing of the system layout showing the system in its entirety including known components, changes of direction, access panels, areas that could not be cleaned
- Recommendations made where access has been problematic for remedial actions, e.g. access panels to be added
- Other hazards that have been identified
- Observations and further recommendations

Reports need to be compared and benchmarked with previous reports, to ensure compliance and to identify and help resolve problem areas. Formal records of all inspections and cleaning schedules should be maintained.

Cooker hoods, filters and grease traps should also be cleaned on a regular basis.

Further details regarding cleaning are provided in separate documents such as those available in the UK from the Fire Protection Association/RISCAuthority and BESA:

- RC68: Recommendations for fire safety in catering establishments
- RC44: Recommendations for fire risk assessment of catering extract ventilation
- DW172: Specification for kitchen ventilation systems
- TR 19 Grease Specification: Fire risk management of grease accumulation within kitchen extraction systems

Wet Film Thickness or Deposit Thickness Tests

The thickness of fat deposits within the extract ductwork can be measured using either the Wet Film Thickness Test (WFTT) or a Deposit Thickness Test (DTT). The suggested frequency of cleaning is shown below and is shown as a guide in the absence of specific data enabling the BESA predictive accumulation assessment table to be used:

- Cooker hoods, filters and canopies – cleaned weekly
- Extraction ducting, fans, etc.:
  - 12-16 hours cooking per day – cleaned every 3 months
  - 6-12 hours cooking per day – cleaned every 6 months
  - Up to 6 hours cooking per day – cleaned every 12 months

Film Extraction

Typically, there are two methods of fan extraction, these being 'positive' and 'negative' pressure:

- Positive pressure - fans are installed at the lower end or start of the extract ducting network and 'push' the air and extracted fat particles up through the ducting. This causes the fat particles to stick more easily to the sides of the ducting, resulting in a faster and greater build-up within
- Negative pressure - fans are installed at the end of the ducting network, effectively 'sucking' the extracted air and fat deposits up and out. This can result in the fat being less likely to stick to the sides of the ducting

UV (Ultraviolet) Filtration

UV filtration technology is rapidly improving and is now a recognised method of reducing fat deposit build-up within the extract ductwork and related parts. Simply put, it mixes the fat particles with ozone, making them lighter and enabling them to be extracted at a faster speed, meaning they do not stick to the sides of the ducting, fans, etc. as easily. The subsequent fat build-up (combustible loading) within the network is reduced. As a result:

- The cleaning costs may be reduced, as there are less deposits and therefore it takes less time to deep clean the duct, or
- In some cases (subject to approval) the frequency of the deep cleaning may be modified to a lower frequency

An added environmental benefit of UV filtration is that the odour emissions at the extract outlet are reduced.

However, UV filtration systems require more frequent servicing and maintenance in accordance with the manufacturer's recommended guidance. Servicing and maintenance of such systems also requires specialist trained engineers.

Wood-Fired Ovens, Barbecues and Biomass Water Heaters

Where wood-fired bakery ovens, barbecues fired with charcoal or wood, and water heaters fired with biomass are provided as part of a commercial kitchen fit-out, a smoke, grease and soot filtering and spark arrestor system should be provided. The system should be an extract hood cold water mist/water wash based system located directly at the point of extract from the source within the extract hood. It should be fitted with automatic water flow control to minimise water consumption when not required.

A carbon monoxide (CO) sensing system should be installed in the kitchen/restaurant space local to the charcoal/wood/biomass-fired equipment. This sensing system should enable the ventilation system in the space, to ensure that no build-up of CO gases occurs during unoccupied and occupied periods.

Carbon monoxide is a colourless, odourless, and tasteless flammable gas that is slightly less dense than air. It is a poisonous gas to humans, which in some cases of prolonged exposure can lead to unconsciousness and death. As a result, these ovens should only be operated where carbon monoxide detection is provided.

It is strongly recommended that wood-fired operations and barbecues should not be undertaken internally within buildings.

Checklist

A generic Commercial Kitchens – Extract Systems and Cooking Ranges Checklist is presented in Appendix 1 which can be tailored to your own organisation.

Specialist Partner Solutions

Aviva Risk Management Solutions can offer access to a wide range of risk management products and services at preferential rates via our network of Specialist Partners.

For more information please visit:

Aviva Risk Management Solutions – Specialist Partners

Sources and Useful Links

- Fire Protection Association/RISCAuthority – FPA Risk Guidance Documents
- BESA – BESA.

Additional Information

Relevant Loss Prevention Standards include:

- Hot Work Operations
- Housekeeping – Fire Prevention
- Managing Contractors
- Fire Safety Legislation

To find out more, please visit Aviva Risk Management Solutions or speak to one of our advisors.

Email us at riskadvice@aviva.com or call 0345 366 6666.*

*Calls may be recorded and/or monitored for our joint protection.

Appendix 1:
Commercial Kitchens – Extract Systems and Cooking Ranges Checklist

Location	
Date	
Completed by (name and signature)	

	Extract Systems and Cooking Ranges	Y/N	Comments
1.	Is the building fire compartmentation fully understood and formally documented? Is the fire compartmentation audited?		
2.	Is the cooker extract ducting route fully understood and formally documented?		
3.	Is the construction of the building walls, floors and/or roof where the extract ducting passes through and finally exists the building known and fully documented? Is any of this construction considered as combustible? If construction is combustible what protection measures have been provided?		
4.	Does the cooker extract ducting pass through any fire compartment walls? If yes: • What additional fire compartment protection measures are provided within the duct? • Is the extract duct suitably fire-stopped around the ducting passing through the fire compartment wall? Is the fire compartment strategy integrity inspected and maintained? Is this included in the management of change process?		
5.	Is the extract ducting constructed of fire-resistant materials? If yes what is the fire resistant rating?		

	Extract Systems and Cooking Ranges Contd.	Y/N	Comments
6.	Is a 'suitable and sufficient' fire risk assessment for the premises maintained to: identify fire hazards and eliminate, reduce or manage the risk from fire, as far as practicable? Do this include a plan to deal with any emergency?		
7.	Is the area close to the extract duct exit point: • Clean? • Clear of any combustible materials?		

8.	Is there suitably designed automatic fire detection in every room/area?
	• Is this connected to an appropriate monitoring station?
	• Is this system serviced, maintained and tested?
	• Is this interlocked to shut down the:
	  ○ Power and/or gas supplies to the cooking equipment?
	  ○ Cooking equipment duct extraction system?		

9.	Is there an approved automatically and manually actuated fire suppression system (e.g. Ansul R-102, Amerex KP, Nobel K-Series) protecting the cooker hood/filter/entire cooking range/(including any adjacent items, e.g. deep fat fryer)/extract ducting? Are the manually actuated devices in readily accessible and safe locations?		
10.	Are the discharge nozzles to the fire suppression system provided with protective caps and are they all in place?		
11.	Is the fire suppression system serviced and maintained at least every 6 months by an approved company?		
12.	Does actuation of the fire suppression system automatically actuate interlocks that automatically shut down the power supplies and/or gas supplies to the cooking range equipment?		

	Extract Systems and Cooking Ranges Contd.	Y/N	Comments
13.	Are the interlocks tested to ensure correct operation as part of the servicing and maintenance of the fire suppression system?		
14.	Are there manually activated emergency isolations for any gas and electricity supplies? Are these clearly labelled and located in safe and readily accessible locations on exit routes?		
15.	Is there regular servicing and maintenance of all cooking equipment/appliances and electrical installations as part of a preventative maintenance programme?		
16.	Are procedures in place to ensure power and fuel supply to the kitchen is shut-off outside working hours?		
17.	If a deep fat fryer is provided, is it serviced and maintained in line with manufacturer's guidelines?		
18.	Are all deep fat fryers fitted with dual safety temperature shut-off devices which automatically shut down the fryers in the event that the main temperature thermostat fails?		
19.	Is the oil used in any fat fryer changed regularly (frequency dependant on usage and risk assessment)?		
20.	Are there accessible, clearly positioned and suitably maintained fire extinguisher(s) appliances within the kitchen? Are individuals operating in the area trained in their use?		
21.	Are all kitchen staff competent and formally trained in understanding the: • Risks present including within the ductwork? • Use of all fire safety equipment? • Manual isolation and interlocks provided? • Emergency procedures?		

	Extract Systems and Cooking Ranges Contd.	Y/N	Comments
22.	Have written risk assessments been completed by specialist accredited cleaning contractors? Is there a frequency of extract duct cleaning and associated intervals?		
23.	To ensure the interior of the duct is kept clean and free of fat deposits, is there a deep cleaning contract in force with accredited contractors? Is this deep cleaning carried out at appropriate frequencies?		
24.	Are there adequate access panels in the extract ducting to enable a full deep clean to be carried out of the entire length of the duct? • Spaced at approximate 2-metre intervals? • Are there any inaccessible areas (please list)?		
25.	Has the extract duct cleaning contractor issued: • Completion certificate(s) • Written reports that include photographic evidence of before and after cleaning?		
26.	In addition to duct deep cleaning, are the cooker hoods, canopies, filters and grease traps cleaned on a weekly basis?		
27.	Is there any form of UV filtration and is it regularly cleaned and serviced by specialist engineers?		
28.	If there are any wood-fired operations or barbecues, are these activities undertaken externally? If these are internal (not recommended) are the following provided: • A spark arrestor system? • A carbon monoxide (CO) sensing system interlocked to enable the ventilation system in the space? • Appropriate extract duct inspection and cleaning regimes as detailed previously?		

	Extract Systems and Cooking Ranges Contd.	Y/N	Comments
29.	Additional comments:		

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