# Guidance for the Installation of LPG and LPG Fired Equipment in Tented Structures, Stalls and Gazebos

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# Section 1 - Introduction

This guide has been prepared in consultation with those involved in the Mobile & Outside Catering industry, specifically:

- Catering trailer manufacturers and van converters (10)
- Calor Gas
- EU Skills
- Gas Safe Register
- Gas Safe registered engineers (several)
- Gastec
- IGEM (Institute of Gas Engineers and Managers)
- OPGO (Organisation for Professional Gas Engineers)
- PKL Group
- Staffordshire Fire Service
- The Institute of Fire Prevention Officers
- UKLPG
- Wessex Fire Service

It has been compiled by The Nationwide Caterers Association

# Scope

This guidance only covers catering, cooking, storing or preparing food for sale or distribution, purchased or given away freely from tented structures marquees, stalls and gazebos where Liquefied Petroleum Gas (LPG) is used in the cooking or warming process and the fuelling of generators used in conjunction with the activity.

It does not included vehicle mounted LPG tanks or vehicles propelled by LPG.

It does not include cooking equipment intended for domestic or leisure purposes, such as domestic barbecues.

# Purpose

This document provides practical guidance for the installation and safe use of LPG and LPG fired equipment in the instances covered by The Scope.

This guidance has been developed by The National Caterers Association (NCASS) in consultation with the other organisations and industry experts listed in Section 1 to help caterers, their employers, and gas engineers to make health and safety improvements in the mobile & outside catering industry. This guidance may go further than the minimum you need to do to comply with the law and NCASS acknowledges the support of the Health and Safety Executive in producing this guidance.

## Health & Safety Executive

# Where these Guidelines do not apply

These guidelines do not apply:

- where an installation comprises of a single appliance <u>which is intended for outdoor use</u> such as a BBQ that is connected to a single cylinder and a single cylinder in reserve.
- where mobile catering trailers and converted vehicles are being used (see separate guidance notes)

# Definitions

# Annual Gas Safety Check

A check to ensure safe operation of gas appliances, pipework and flues, carried out by a suitably qualified Gas Safe engineer, with competence to work on commercial LPG catering installations.

# Automatic Changeover Device

A valve to allow two or more LPG cylinders to be connected at once. When the service bottle runs low the regulator automatically switches over to the reserve bottle. There is a period that both bottles are being used. The point at when this happens depends on the gas rate required by the appliances and the maximum take-off rate of the cylinder.

The indicator on the changeover valve points to the service bottle and tells the user its status, when the service bottle is totally empty the indicator normally turns red, you can simulate this by turning off the cylinder valve. At this point the reserve bottle is being used.

Only turn over the changeover valve to point to the reserve bottle when the service bottle is completely empty, this is to get all the expensive gas out of the bottle and used up. The indicator will start showing red when there is still a considerable amount of gas in the service bottle.

When the changeover valve is turned over to the other cylinder, the reserve bottle becomes the service bottle and the empty one needs changing for a full new reserve bottle.

Changeover valves will ensure an uninterrupted gas supply to the appliances and reduces the number of trained personnel needed to be able to change cylinders safely.

# Bain Marie

Used for keeping food hot i.e. Above 63° C

Bain marie's are available in a wide variety of shapes, sizes, and in either wet or dry types.

# **BLEVE - (Boiling Liquid Evaporating Vapour Explosion)**

An explosion of a Gas cylinder that happens when the cylinder wall has failed and the liquid gas explodes, causing a fireball with a size and duration depending on the amount and type of gas released. This is not a manageable emergency other than quick evacuation out of an exclusion zone that takes into account that propane gas cylinders can be thrown 50 meters away in any direction, the minimum safe distance from a potential BLEVE involving propane cylinders of 19 kg and above is 100 meters.

# Butane Gas

Butane, while not as commonly used as propane, is nonetheless a very popular fuel, but not recommended for commercial mobile / outside catering.

# **CE Marking (CE Mark)**

A mandatory conformance mark on many products first placed on the single market in the European Economic Area (EEA), since 1 January 1996, to indicate that a product satisfies the requirements of the Gas Appliances (Safety) Regulations 1995.

# **Competent Person**

For the purpose of this guidance a competent person is someone who has had basic training in the safe use and handling of LPG for the purpose of changing cylinders etc..

# Cylinders

A portable container designed in accordance with the relevant British & European Standards for the storage of Liquefied Petroleum Gas under pressure that can be refilled by an authorised filling plant.

# Cylinder Valve

The device sited at the top of the cylinder to enable discharge of the gas when open and seal the cylinder when not open. It also incorporates a pressure release valve that opens when the internal pressure of the cylinder gets too high or when the cylinder gets too hot. This can happen when the cylinder reaches 70 degrees, It is therefore very important that cylinders are kept in an upright position as the release rate when liquid comes out is 250 times higher than when gas comes out. The other reason is that when a cylinder valve is open and the coming out is on fire it must not be impinging on adjacent cylinders as these can then fail with a BLEVE as a result.

# **Enforcement Officers**

Trading Standards Officers, Health and Safety Inspectors or Environmental Health Officers.

# Flame Supervision Device (FSD) also known as a Flame Failure Device (FFD)

A device fitted to an appliance to stop gas from flowing when there is no flame present. The most common type is a thermoelectric valve that uses a thermocouple to generate a minute amount of electricity to hold a magnetic valve open.

# **Flueless Appliance**

A gas appliance that by its design does not require connection to a flue / chimney.

# **Flued Appliance**

An appliance that must be connected to a flue or chimney to take products of combustion

safely to the outside air.

# **Gas Appliance**

For this guidance a device manufactured and tested to a relevant standard and CE marked (where necessary), fuelled by LPG for the purpose of cooking, heating, lighting or chilling of foodstuffs and liquids.

# Gas Safety Report

A report completed by a registered gas engineer stating to what extent a gas installation complies with gas safety standards.

# Gas Work

The Installation, adjustment, maintenance, commissioning, de-commissioning, purging, or adjustment of gas installation pipework, appliances or associated fittings in accordance with the Gas Safety (Installation and Use) Regulations 1998 (GSIUR).

# LPG

Liquefied Petroleum Gas either Propane or Butane to BS 4250.

# Non Return or Check Valve

A device that permits the gas flow in only one direction, typically found in the POL connector on the pigtail. Wall blocks that have one or two pigtails joining a female POL connector will normally also have non return valves fitted. The excess flow valve is the same valve that will slam shut when the cylinder is opened too quickly or when the take-off rate exceeds the excess flow shut off rate.

# OPSO / UPSO Valve

A safety device that protects the downstream gas installation against dangerous pressure situations, OPSO valves cut off the supply when the pressure gets too high, UPSO valves cut off the supply when the pressure gets too low.

# **Pigtails**

The connection between the propane cylinder and regulator is commonly called the pigtail. The pigtail connects to the service valve of the propane cylinder and the inlet connection of the regulator. This connection is relatively small in diameter which initially restricts the flow of gas from the tank to the regulator. Pigtails should be replaced when the regulator is replaced.

# **POL Connection**

The name of the type of valve connection for propane cylinders in the UK, it uses a left hand thread and a conical nose. Regulators can be connected to the cylinder with a POL connector or with a pigtail tube between the cylinder and the regulator. A POL spanner is 30 mm wide spanner, remember that left hand thread goes the other way round than normal thread. In Ireland the gas cylinders use a different connector; these are known in the UK as Butane connectors. In the USA a slightly different version to the British POL connectors are used and these are not compatible.

# **Propane Gas**

Propane ( $C_3H_8$ ) (also called commercial propane) is the gas mostly used in catering in the UK. It is available in various sized cylinders painted red or orange. It is stored in liquid form under pressure in the cylinder and will evaporate to the gas form when gas is used. A 47 kg cylinder will contain 100 litres of liquefied gas, when evaporated this will turn into 25 cubic meters of gas.

# **Registered Gas Engineer**

An engineer registered with Gas Safe Register and for this purpose, qualified to install, commission and maintain commercial catering equipment fuelled by LPG in mobile and outside catering installations.

# **Regulator (Cylinder)**

A device that maintains a constant outlet pressure which can be fitted to the cylinder directly or connected remotely to the cylinder with a suitable hose (pigtail to BS 3212/2 or BS 1763). Suitable fixing positions / methods are described later.

Some regulators are single stage and reduce the pressure to 37 mbar and others are reducing the pressure to 1.5 bar and supply a second regulator downstream that reduces the 1.5 bar into the 37 mbar which is the pressure required to fuel appliances.

# Take Off Rate / Evaporation Rate / Gas Freezing

The rate at which the liquid inside a cylinder evaporates. This can be expressed in kg per hour, cubic meter per hour or kilowatts per hour. In the catering industry kilowatts per hour, is normally used.

Gas freezing is where we want to use more gas than the maximum take-off rate, The result is that the gas pressure at the regulator outlet is reduced so the amount of heat at the appliance is also reduced. This reduction is not linear, half the inlet pressure is still more than half the gas rate. The maximum take-off rate depends on the ambient temperature of the gas cylinder and on how full it is.

# Hot Water Boiler

An appliance for the purpose of heating water to boiling point.

# Water Heater

An appliance for the purpose of heating water to a set temperature.

# Legislation / Regulations

There are several pieces of legislation that have a bearing on this guidance:

- The Health and Safety at Work etc. Act 1974.
- The Gas Safety (Installation & Use) Regulations 1998.
- The Road Vehicles (Construction and Use) Regulations 1986, as amended.
- The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004.
- The Gas Appliances (Safety) Regulations 1995.
- The Provision and Use of Work Equipment Regulations 1998.

## There are also normative documents that are relevant:

## UKLPG:

- Technical Fundamentals.
- COP 24 Pt. 3 LPG cylinders in mobile catering vehicles.
- COP 24 Pt. 4 Use of LPG Cylinders for catering and outdoor functions.

## **British Standards Institute:**

- BS5440 pt 1& 2 Flueing and ventilation.
- BS5482-1 & BS6891 specification for pipework.
- BS EN 1949 LPG systems in vehicles.
- BS6173 catering installations.

# This list is not exhaustive.

# **SECTION 2 - Design and Construction**

# Weights

As LPG cylinders are very heavy items and, when full, can weigh twice the marked weight of the cylinders LPG contents, consideration must be given to the following:

# 1) When in a vehicle

That it does not take the vehicle over its recommended MAM (Maximum Allowable Mass) this should be taken to mean the permissible maximum weight, also known as the gross vehicle weight.

# Gas Installation and Pipework

# Design

# **Cylinders and hoses**

For design purposes the nominal take off rate of a 19 kg cylinder is 20 kW and for a 47 kg cylinder 33 kW the design should be based on average use of the gas when an automatic changeover valve is used and based on maximum use without change over valve. Use kW to express gas rate for convenience.

Appliances that have kg/hr rating on the indicator plate can be translated by multiplying the kg/hr by 14 to get the kW rate. If it indicates cubic meter per hour then multiply this figure by 26 to get the kW rating. The installation must be designed for maximum use, diversification factors are not normally used.

If the installation has more than one cylinder on the same side of a changeover valve, it is recommended to use splitters at the changeover valve end and use pigtails that are fitted with a non-return / excess flow valve in the POL connector.

If the daisy chain method is used, there can be problems with gas release when cylinders are being changed and with the excess flow valve slamming shut. Daisy chain connection of multiple gas cylinders should only be used in special circumstances.

The pigtails should be as short as reasonably practical, and always run uphill to avoid ingress of oil residues into the regulator.

There is no expiry date on hoses but they should be replaced as soon as they show signs of wear, aging, damage, weathering or cracks. Hoses older than 5 years should be rigorously checked.

Hoses that carry gas from cylinders to regulators must have factory swaged connections and cannot be used with home-made crimps.

# High Pressure Stage

High Pressure stage pigtails should be contained within the tamper proof enclosure as shown in Fig 2

# Automatic Changeover Devices

Automatic changeover devices should have non return valves at the high pressure inlet to prevent discharge of gas when changing cylinders and an indicator to show which cylinder is in use.

# Manual Changeover Devices

Must have a means of identifying the cylinder in use.

# Pressure Regulators

The primary regulator should comply with BSEN 12864 and be correctly matched to the type of gas.

The size of the regulator depends on the amount of gas needed. They are rated in kg/hr and every kg equals 14 kw. The regulator must not be undersized. The type of regulator also depends on the installation size. Single stage regulators are normally available in 5kg/hr sizes. That is 56 kw.

Larger installations require two stage regulators, the first stage will reduce the pressure from 10 bar cylinder pressure to 1.5 bar and the second stage reduces it from 1.5 bar to 37 mbar, the normal appliance operating pressure. When there are more than 3 cylinders connected to an automatic change over valve, an Over Pressure Shut Off valve(OPSO) is required, these are available in two types, suitable for first stage or second stage applications. The second stage version is the one that has to be used in catering installations. Combined second stage regulators and OPSO valves are available from Hamilton Gas Products.

Regulators that incorporate limited relief valves (usually second stage regulators) should have the valve discharge routed to outside with a tube diameter of 10 mm or higher

The regulator must be either mounted on the cylinder or fixed to the wall of the compartment and cannot be left loose.

**Regulator Hoses** (sometimes referred to as Pigtails or Tails)

Flexible hoses should have factory fitted swaged or crimped connections (not hose clips), be manufactured to BS 3212 type 2 and it is recommended that these be replaced every (5) years from date of manufacture or three years from the date of purchase or when signs of wear or damage is identified. Pigtails should not be any longer than 1m.

Purpose made stainless steel Pigtails are available which can give a longer service life.

# Multi Cylinder Installations

When more than two cylinders are connected the changeover valve should be fitted with an Overpressure Shut Off.

It is also possible to have two gas installations in a trailer, provided that it is readily visible that the gas supply and emergency shut off valve and procedure is laid out in such a way that it is not likely to have untrained staff isolate the wrong installation in an emergency. A gas installation must not be fed by more than one regulator or more than one supply. Where gas installations are designed to have the gas supply on more than one point of the installation, systems of work should be in place to ensure that it is not practically happening that there are two supplies feeding a single installation.

When the installation needs multiple cylinders to provide the required gas, they must be connected with tee pieces at the changeover valve and not normally daisy chained as in Fig 2. The reason for this is that daisy chained cylinders have to be turned off before any of them can be changed and that the final pigtail between the nearest cylinder and the regulator has to convey too much gas, the excess flow valve can slam shut. The pigtails should incorporate non return valves in the POL connector.

# Multi Cylinder Installations



Fig 2 Typical multi cylinder installations

# Cylinder Siting / Housings / Cages

# Cylinders must not be sited within the structure and should be in a cage or housing which complies with the following:

- Be sited outside the structure and a minimum 1m from the wall of the structure in a tamper proof enclosure.
- Have a warning notice displayed on the enclosure.
- Have an LPG distribution system such as shown in Fig. 3. which must comprise of an isolation valve, regulator, and preferably a pressure gauge either permanently fixed to the wall of the enclosure or on a stable post.
- The housing must be ventilated at high and low levels.
- Have only the required number of cylinders to operate the equipment plus a reserve of the same amount as a maximum.
- Have cylinder changing instructions within the cage or housing.
- Be sited on a level, flat noncombustible surface and if the cylinders are over 13kg they should be secured to prevent them falling over.



Fig 2. Typical example of a cylinder housing/ cage

Fig 3. Example of a gas distribution system

# Pipework

All LPG installations and maintenance should be carried out by a registered gas engineer unless it is undertaken in premises which are outside the scope of GSIUR.

The size of the pipework should be adequate to ensure that the flow and pressure at each appliance at the anticipated maximum system load is within the limits specified by the appliance manufacturer. This should be based on a maximum pressure drop of no more than 2.5 mbar between the outlet of the regulator and any appliance inlet when under maximum load.

- Internal pipework should be constructed from solid drawn copper, stainless steel corrugated stainless steel or steel, with soft solder, compression or malleable iron fittings.
- Copper pipework and soft soldered fittings should not be used where temperatures are likely to exceed 100° C.
- Jointing compound should not be used.
- Pipe runs should be designed to facilitate cleaning, positioned and protected to avoid it being easily damaged.

Fig 4 shows a typical layout comprising:

Cylinder housing/ cages with changeover valves and rigid pipework to ground level where it connects to either the rigid internal pipework directly or via quick release valved coupler and a flexible hose (maximum length 2m) to the internal rigid pipework. The rigid pipework should incorporate an emergency control valve and EIV label as close to the start of the internal rigid pipe work as is practical.

Changes of direction of the rigid pipework can be achieved using quick release valved couplers and short proprietary appliance hoses with quick release valved couplers.

Along the length of rigid pipework there are quick release valved couplers into which appliances can be connected via flexible hoses.

This can be assembled by a competent person.

As a minimum an annual gas safety check should be carried out on the following:

- 1) The appliance and the attached hose and connector
- 2) The rigid pipework and quick released valved couplers
- 3) The gas cylinder installation with attached changeover valve, pigtails, and attached low pressure stage to valved coupler.



Fig 4. Typical kitchen layout

# **Emergency Control Valve (ECV)**

An emergency control valve must be installed inside the cooking area at either the point where the low pressure pipework enters the cooking area or adjacent to the exit point of the cooking area.

For single cylinder installations, the cylinder valve can be used as emergency control valve.

A notice clearly identifying the purpose of the valve and the direction of shut off must be clearly visible. Instructions for emergency procedures should also be displayed, but these can be incorporated together as shown in Fig. 5.



Figure 5 Sample ECV notice

# Connection from rigid pipework to appliances

Appliances can be connected to the rigid pipework either directly or by means of a purpose made hose with factory fitted end connector to BS 669-2.

# **Appliance Isolation**

All appliances must have a means of isolating it from the gas supply. This can be done in the following ways:

- A suitable shut-off valve as Fig. 6.
- A quick release valved coupler, for use with Bayonet Gas Catering Hose as Fig. 7.
- Hoses must be manufactured to BS669 part 2 marked suitable for LPG.



Fig 6 Appliance isolation using a shut-off valve and rigid pipework



Quick release valved coupler and a bayonet gas catering hose

# **SECTION 4 - Appliance Siting**

# **CE Marking**

If manufactured after 1996 all appliances must be CE marked which indicates that they have been tested and certified by a 'Notified Body'.

# Appliances

All appliances within the installation must comply with the following:

- Be fitted with a flame supervision device.
- Be located on a noncombustible flat surface and 300mm from the wall of the structure.
- Have wind guards if it is an open flame device.
- Allow for adequate cleaning and / or removal to allow cleaning.
- Be fixed so as to prevent movement unless they are of a portable nature such as a kettle, toaster or counter top fryer.
- Be sited so as not to obstruct passage ways or exits.

# Water heaters

Water heaters must be installed as per the manufacturer's instructions and flued if required. Some appliances can be installed without a flu as long as it has only a single point outlet, but manufactures instructions should be complied with.

# **Domestic Cookers**

Domestic cookers that do not have a Flame Supervision Device for all burners should not be used or Gas Safe certificated.

# **LPG Fridges**

LPG fridges are not generally made for commercial use and therefore should be discouraged.

# LPG Generators

- Standalone generators must be CE marked.
- The generator must have an earth rod.

The customer should be advised that they must read the manufactures instructions and that regular maintenance and checks will be necessary to ensure the continued safe running of the generator.

# **Fryers and Chip Ranges**

These must be fitted according to the manufacturer's recommendations and must have a ventilation canopy incorporating a flue to the outside.

Exception can be made for single or twin basket counter top fryers with a total oil capacity not exceeding 14 litres but special attention should be made to ensure that the installation guarantees adequate removal of fume emissions to sustain a safe working environment.

A manually resettable over temperature thermostat must be fitted to operate if the oil or fat exceeds 230 degrees C.

When the installation needs multiple cylinders to provide the gas they must be connected as shown in Fig 6.



Fig 6 Multiple cylinder connection for large installations and frying rangers

# **SECTION - 5 Ventilation**

It is essential that adequate free ventilation is provided in cooking areas.

# **Canopies and Flues**

Natural draught canopies should not be considered as part of the high level purpose provided combustion air ventilation requirement.

Any canopy must extend a minimum of 150 mm beyond the appliance cooking area on all sides and should be easily cleanable with removable filters and made from nonflammable and non-corrosive materials.

Flues and canopies must be located away from flammable materials.

Any flue system should be installed in accordance with the appliance manufacturer's installation instructions and terminated so the products of combustion can discharge safely at all times. When positioning the flue and before operating any appliance with a flue system, due consideration must be given to the surrounding area and any obstructions that may affect flue performance. This will include overhanging tress, proximity to adjacent structures or vehicles, etc.

# **Forced Extract Canopies and Flues**

Where forced mechanical extract canopies are installed, they must be electrically interlocked with the canopy, so that if the draught in the canopy fails to meet the minimum extract requirements, the appliance is prevented from operating. It must not be possible to override this safety interlock.

The canopy must extend a minimum of 150 mm beyond the appliance cooking area on all sides and should be easily cleanable with removable filters and made from non flammable and non corrosive materials.



Fig 8 Interlocking the extract canopy to the fryer

# Section 6 - Maintenance and Gas Safety Check

Gas appliances and flues must be maintained in a safe condition. It is recommended that servicing is undertaken in accordance with manufacturer's instructions, usually every 12 months. Any maintenance work should only be undertaken by a registered gas engineer and any problems affecting its safe operation rectified as soon as possible.

Once the registered gas engineer is satisfied that the equipment is working satisfactorily and that the installation is safe and within permitted operational tolerance, a suitable gas safety record should be issued such as the one in Appendix 1.

The gas safety report shall contain the following information:

- Name and address of the owner/operator of the installation.
- Details of the installation.
- Appliance description, like make and model.
- Operating pressure.
- Results of tightness test.
- Statement whether the installation complies with current safety legislation.
- List of safety issues identified their severity and remedial action taken.
- Name and address of registered business who performed the safety check.
- Name and signature of the operative who performed the check.
- Date of completion of the report and the expiry date of the report.
- Advice to the owner/operator that the record needs to be kept for 3 years and that a safety check should be done at least annually.

The gas safety record should be one that is intended specifically for the purpose (see appendix 1).

It is recommended that the business keep a copy of the certificate for at least five years.

# The Registered Gas Engineer's Inspection

It is appreciated that CE marking plates on appliances that could now be over a decade old it may be difficult to find or read due to rigorous cleaning and the built-in nature of the appliances.

If the CE mark cannot be located and there is no other indication that the appliance was CE marked, the registered engineer should assess the safety of the equipment and classify it appropriately against the Gas Industry Unsafe Situations Procedure.

Where additional safety devices are required, these may be fitted, providing they do not result in the appliance no longer conforming to relevant standards to which it is purports to comply (e.g. CE marking). Flame Supervision Device (FSD)s for example may be retro-fitted in accordance with the guidance contained in Gas Safe Register Technical Bulletin 044.

The gas safety record should as a minimum contain the information shown in annex 1.

Where equipment can be seen to of been manufactured since 1996 and does not conform to CE standards then the manufacturer should be reported to The Health & Safety Executive.

# Routine Safety checks

The business owner or a nominated person should on a regular basis (at least once every one month of operation) or if the trailer or vehicle has been stood unused for a period of more than one month) check the following:

- Cylinder / regulator/ changeover device condition should be free from damage.
- Gas hose condition hoses and connectors should be clean and free from damage or abrasion.
- Visual check to indicate correct operation of appliances. If in any doubt as to the safe working of an appliance the appliance it must be isolated using the appliance isolating valve or the quick release valved coupler and a Gas Safe registered gas engineer called to carry out any repairs or replacements.
- Gas pipes and connections should be checked for signs of wear and damage.

Under no circumstances must anyone who is not a suitably qualified Gas Safe registered engineer carry out any modification or repair to the gas installation or appliances, this is a criminal offence.

If you smell gas at any time isolate at the supply and contact a registered Gas Safe engineer.

# Hired-In Equipment

The owner of hired-in equipment has the responsibility of maintaining it in a safe condition. However the hirer should take reasonable steps to ensure that the equipment has been checked and is in good working order.

# **Section 7 - Fire Precautions**

Fire Risk Assessments are compulsory under the Regulatory Reform Fire Service Order and Fire (Scotland) Regulations 2006 for all companies that employ more than 5 staff (overall throughout all their locations,) and must be in a written format. This should be carried out by a competent person.

If less than 5 employees, although it is still required, it is not necessary to record it in writing. Following the theme of good practice, and in the event of the person who does have the knowledge not being available when the information is requested by an authorised authority, it is advisable to make a record in simple form, which could consist of one or two pages. If less than 5 employees it is good practice to carry out a fire risk assessment on the units that are being operated.

The guidelines for fire protection equipment are;

### Where oil/fat frying or a griddle is used:

- Fire Blanket (this may change in the near future)
- 6ltr Wet Chemical Extinguisher

### Where waste bins are provided/used:

• 6ltr Water Fire extinguisher

### Where generators and/or electrical equipment are used:

• 2ltr CO2 Fire extinguisher, however this may need to be increased to take into account the number and types of equipment being used.

### Where BBQ's are used

• 6ltr Water Fire extinguisher

# The siting of a designated fire point for the extinguishers is to form part of the set up and operational process

### Training

Staff should be trained in the use of extinguishers and their purpose, training records should form part of the operational process.

### Maintenance

Extinguishers and fire blankets should be maintained regularly and be serviced annually by a competent person in accordance with BS 5306.

## Additional for Motorised Units:

An additional dry powder extinguisher should be available for engine fires within the cab if it is separated from the cooking area.

Staff should be trained in the use of extinguishers and their purpose.

Extinguishers and fire blankets should be maintained regularly and be serviced annually with a label attached to each item showing the inspection date and the engineer's details.

Record No.	(3	Outsic	de Cater	'ing Equ	ipmen	t / Inst	allation	I Gas Sa	ifety	Inspection Date		1)	
Gas Safe Engineers Card. No:			Installati Marque	ion type: e. Gazebo, Stall				Operators 1	Vame:				GAS TH
Name:			Size(ft)/	(m)/				Company:					DIPC
Company:								Address:	s 1				NCACC
Address:													CATERERS
Post Code:								Post Code:					NOITAIORA
Phone:								Phone:				710	47C7 COO T
Appliances	2	lake		Model		CE marked Yes / No	Fixing Satisfactory Yes / No	Ventilation Satisfactory Yes/ No	Location Satisfactory Yes / No	Isolation Valve Installed Yes / No	Controls Operation Satisfactory Yes / No	Burner Pressure / Co	POC Removal Satisfactory Yes/ No
									6				
LPG Satisfactory Cylinder Yes/No or Storage N/A	Installation	Satisfactory Yes/No	Extract	Satisfactory Yes/No	Defects ld	entified:					Warning / A	Advice note No	
Cage	EIV		Interlock										
Location	Pipe Sizing		Smoke Test										
Warning Label	Hose condition				Remedial	Action:							
Changing Instruction	Pipework Condition		Fire	Satisfactory									
Securing	Joints		Precautions	Yes/No	136				-				
Method	Gas Tightness		Extinguisher		Engineers	Signature:			Nar	ne (Printed):			
Resistance	Operating Pressure		Blanket		Date:				Ney	t inspection Date:			
Regulator	Lock Up Pressure				Operator s	signature:			Dat	ä			

# Appendix 1 – Sample Gas Safety Record

A gas safety inspection of a temporary outside catering installation and or equipment for use in such and installation should comprise of:

# Appliances

- marked or suspect fraudulently CE marked appliances should result in either the A record of all installed appliances should be included on the certificate. (non CE appliance being removed or no certification issued).
- Check all appliance controls to ensure that they are functioning satisfactorily.
  - Check to ensure each appliance can be individually isolated.
- Check appliances are suitable located and away from any combustible materials;
- Check appliances are correctly flued, ventilated or under and extract canopy if Check appliances are securely fixed in position.
- required in accordance with manufacturer's instructions
- Room sealed water heaters should be checked for sight glass, and case condition.

# Installation and pipe work

- valve, regulator, and preferably a pressure gauge either firmly fixed to the wall of The installation must have an LPG distribution system comprising of an isolation the cylinder cage / housing or on a stable post. •
- Check to ensure adequate pipe sizing for the appliances on the system
- Check to ensure pipe work and joints are in good order and 'gas tight'.
- and surrounded by shields of similar material on three sides and do the shields provide an adequate and effective barrier of at least 600 mm between the heat Ensure all appliances are fixed to a firm non-combustible heat insulating base source and any combustible material?.

# **Regulator and hoses**

- Check the regulator, to ensure that it is adequate for the 'gas take off' of the appliances .
- Check the hoses and connectors to ensure they are to BS3212 pt 2, in good repair and have crimped connections.
  - Check to ensure hoses are no longer than 3m in a temp installation or 1m on the high pressure side

# Ventilation

- Check to ensure adequate unobstructed ventilation commensurate with the KW output of the appliances installed .
  - Check to ensure that a suitable 'do not obstruct' warning label is in place.

# LPG Cylinders

# Cylinder Siting / Housings / Cages

# Cylinders must not be sited within the structure and must be in a cage or housing which complies with the following:

- Be sited outside the structure and a minimum 1 m from the wall of the structure in an tamper proof enclosure.
  - Have a warning notice displayed on the enclosure.
- Have an LPG distribution system such as shown in Fig 3 which must comprise of an isolation valve, regulator, and preferably a pressure gauge either permanently fixed to the wall of the enclosure or on a stable post.
  - The enclose must be ventilated at high and low levels.
- Have only the required number of cylinders to operate the equipment plus a reserve of the same amount as a maximum.
  - Be sited on a level, flat non combustible surface and if the cylinders are over 13kg Have cylinder changing instructions within the compartment.
    - Check that the supply is sufficient for the equipment at maximum output. they should be secured to prevent them falling over.
      - Check that total number of cylinders (in use and reserve) is compatible with the nstallation, i.e. qty of gas is kept to reasonable minimum.

# Flues

- Check for flow and spillage.
- Check route and condition of the flue.
- Check that the flue cowl on the exterior of the unit is suitable and good condition.

# **Extract** canopies

- If extract canopies are fitted ensure that they are mechanically interlocked to the gas supply, so that if the power fails the gas supply is shut off, in accordance with the manufacturer's instructions. .
  - Conduct a smoke test.

# **Fire Safety**

- Ensure suitable and sufficient dry powder or wet chemical extinguisher are available commensurate with the risk and size of installation.
  - If griddles or shallow fat frying equipment are used then ensure a fire blanket is available. •

# Test

Complete a gas soundness test to prove zero loss for a minimum of 2 minutes.

# Appendix 1- Gas Safety Record

# Appendix 2 - Enforcement Officers Checklist

ltem	Check	Conformity
Gas Safety Record	Is it within date?	
	Does it have the required information as annex 1?	
	Is the engineer on the gas safe register with the required competencies	
Quantity of LPG	There should be no more LPG cylinders in situ than the amount required for fuelling the appliances and an equivalent reserve?	
LPG Cylinders and housings	Are cylinders protected from interference i.e. in a housing/cage? Is the cage ventilated at high and low levels? Are cylinders secured to keep them upright? Is a gas warning label clearly visible? Can the supply be isolated from the installation? Are the cylinders outside the structure and a minimum of 1 m from the wall of the structure?	
Appliances	Are the appliances CE marked?	
	If free standing fryers are in use do they have an extract canopy? If so, is the fryer interlocked with the gas supply?	
Ventilation	Is there sufficient ventilation for the removal of harmful fumes?	
Fire Precautions	Is there an emergency control valve (ECV)readily accessible and is it clearly identified? Are the recommended fire precautions in place and serviced'?	