

The Safe Use of LPG: Portable and Transportable Equipment in the Hire Industry

HAELPG2013 Code of Practice



This Code of Practice (CoP) recommends good working practices for the management of
LPG in the Hire Industry



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Introduction

i. Introduction

This Code of Practice (CoP) is not intended to replace or be substituted for existing statutory Regulations or other industry CoP's issued by the HSE or other regulatory authorities but is intended to be applicable to the HAE/EHA member organizations who hire Liquefied Petroleum Gas (LPG) in cylinders and LPG plant and equipment and may go further than the minimum you need to do to comply with the law.

It offers general information and guidance on how each supplier organization will need to operate to ensure that their hired plant and equipment is serviceable at the point of hire and that other relevant information is provided to minimize the risk to the hirer and members of the public.

It is intended that this CoP be relevant to all hired LPG and associated equipment from the single device (BBQ's) to semi-permanent fixtures e.g. catering facilities at a Main Contractors construction site. In the case of the latter sections of the Construction (Design & Management) Regulations 2007 (CDM07) may apply.

The document has been divided into two parts to clarify the duties and responsibilities of the 'Supplier' and those of the 'Hirer' be they an individual or organization.

ii. Purpose & Scope of the Code of Practice (CoP)

The purpose of the CoP is to provide advice and guidance to the HAE/EHA members who hire out LPG powered equipment, how it should be maintained and serviced and how such equipment is delivered/collected from the hirer who may be an individual or larger organization.

The publication is intended to:

- **increase awareness of the potential hazards involved and the precautions to be taken;**
- **give guidance on appropriate British, European and international standards for equipment;**
- **advise on safe operating procedures;**
- **advise on the need for training, personal protective equipment, fire precautions, maintenance, examination and testing of the equipment.**

The Scope of the CoP is limited to the supply of LPG powered equipment which has a variety of uses and types of equipment. It excludes permanent & fixed LPG installations where cylinders and associated equipment are permanently installed.

The CoP applies to, but is not limited to, the following types of equipment:-

Gas cylinders
LPG catering equipment
LPG heating devices (both air and water)
Mechanical devices e.g. Fork Lift Trucks (FLT's)
Connectors, regulators and hoses, and;
Their use, handling storage and transportation

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1 Provision of Hire Equipment

1.1 Provision of hire equipment

One of the main hazards in the storage and use of LPG is potential leakage, which can result in possible fire or explosion. There is also the risk of inadequate ventilation when in use which could lead to the build-up of toxic gases due to incomplete combustion. However it is likely to be the misuse and poor maintenance or damaged equipment that is likely to lead to incidents occurring.

It is therefore important that all hired equipment is maintained in a serviceable condition at all times. This must include the checking of fittings, regulators, hoses, the appliances in general and all other associated hardware. Hire organizations will need to ensure that they have suitable processes in place which enable them to maintain all equipment in a serviceable condition.

At the point of hire, all relevant information on the safe use of the equipment must be provided in a legible format with pictograms where applicable, to the hirer. This should also include the necessary provision and use of any relevant protective equipment where appropriate.

All hired gas equipment must conform to the relevant BS or EN Standards and be CE marked if it falls within the scope of the Gas Appliance (Safety) Regulations. Such Standards have been designed to ensure that at the manufacturing stage of such equipment that safety and operational mechanisms are effective in controlling the supply and combustion of LPG energy.

1.2 Appliances and Equipment

1.2.1 Cylinders

Gas cylinders are usually welded steel and should be stored in the vertical position outdoors in compliance with UKLPG Code of Practice No.7.

Used in either a suitable outdoor position for vapour off-take cylinders or in a compartment on a Unit/Vehicle, either vertically for vapour off-take cylinder or horizontally for liquid off-take cylinders which are marked with a black shroud.

The number of cylinders should be the minimum for the type and number of appliances being supplied. Any reserve cylinders in stock should be on a 1 for 1 replacement basis.

1.2.2 Any open air installation must be:

- **On firm and level ground with cylinders secure in the vertical position and accessible at all times**
- **Secure against unauthorised interference**
- **Sited at least 1 metre, measured horizontally, from any ventilation openings or accessible compartments of any adjacent permanent or temporary buildings or structures, or other possible sources of ignition.**
- **Sited at least 2 metres in the horizontal plane from un-trapped drains and unsealed gullies or openings to cellars**
- **Sited at least 3m from any corrosive, toxic or oxidising materials unless a fire resistant barrier is provided**
- **Display an “Extremely Flammable LPG” and “no Smoking” signs.**
- **Contain only cylinders, regulators, manifolds change-over devices and pipework**

NOTE – Cylinders must not be located in any cellars, basements or sunken areas.

Cylinders are not to be changed in the presence of potential sources of ignition including naked flames.

The appropriate industry spanner must be used to fit and or remove the regulators or connections and must be provided with the appliance as part of the hire arrangements where necessary.

1.2.3 Catering appliances

Catering appliances consist of, but are not limited to, the following types of equipment.

BBQ's, bain maries, fryers, deep fat fryers, gas hobs & hot plates, griddles, cooking rings, ovens, hot cupboards, & water boilers etc.

All catering appliances must be maintained in a serviceable condition at all times and must be:-

- **manufactured to a recognised standard and carry the CE mark.**
- **fitted in accordance with the manufacturer recommendations. (see also BS 5482 Pt 2 and BS:6173)**
- **protected with a flame failure device (Note BS EN 498 'Barbecue for outdoor use') where two or more burners are in a single compartment without an independent means of ignition.**

A deep fat fryer should have a thermostatic gas cut-off valve which operates if the temperature of the frying medium exceeds 230°C

1.2.4 Valves/Regulators

Regulators should comply with BS 3016 or BS EN 12864 and be correctly matched to both the type of gas and inlet pressure of the appliances in use.

All fittings and threads which connect to the cylinder must be clean and undamaged.

Gas regulators, cylinder valves and hose fittings are precision made. They are designed either to make a metal-to-metal gas-tight seal or incorporate a rubber seal. Inspect both surfaces to ensure they are clean and free from debris and that the rubber seal, if applicable, is in place and in good condition before making the connection.

Should you find you are unable to obtain a gas-tight seal, this indicates that something is wrong. If this is the case, do not use the equipment. Change the faulty item.

On no account should PTFE tape, thread tape, jointing compound, or any other sealant be used to try to secure a gas-tight seal in a leaking connection.

1.2.5 Hoses - Using flexible hoses for LPG applications

Hoses are relatively vulnerable equipment yet play a vital role in the LPG Gas installation and they should be selected, stored and fitted with care.

Only hoses clearly marked as 'High Pressure LPG' dated and certified to BS 3212 type 2 must be used.

Flexible hoses must be in good condition and should be checked before use. Any hoses which shows signs of wear, cracking or damage must be replaced before being used or hired.

Hose lengths should be as short as is reasonably practicable taking into account the safe siting of the gas cylinders and the appliance. All hoses must be secured with proper hose clips and protected from damage, hot surfaces, the accumulation of grease and from splashes of hot oil and fat.

Note 1 – Catering Appliances - hoses can be of any length but this will be dependent on a specific risk assessment for the set up in question.

Note 2 – For Non-Catering Appliances e.g. Space heaters, Bitumen Boilers, Roofing dryers, it is recommended that hose lengths are at least 3 metres and that a suitable 9Kg fire extinguisher is readily available.

Additionally for connecting between cylinder outlet valves and regulators or changeover devices pigtailed are to be used. These have black hose (type 2) which is highly resistant to UV radiation and have the durability to withstand commercial use. They are supplied as an assembly and must be fitted with 'swaged ends' with integrated couplings in line with BS 3212.

Extensions to flexible pipes are NOT recommended.

1.2.6 Handling Stock

Stock should be stored carefully, avoiding bright sunlight, dampness, abrasion and excessive loading and although no specific shelf life is usually quoted strict rotation should be maintained to avoid shortening the useful service life. Although no specific service life is given to hoses it is considered that hoses be replaced/disposed of after a five year period from the date of manufacture on the hose or sooner, where there are signs of wear and deterioration. However aggressive operating conditions or misuse may render the hose unfit for service in a shorter period.

The 'Hirer' has the responsibility to routinely check the hoses for signs of abrasion, cuts, cracks, fading, brittleness, hot spots or other damage. If the 'User' has doubts about hose integrity then arrangements should be made for a competent person to check and if necessary, fit a replacement(s). An example check list is attached as Appendix 7.

1.2.7 Use and limitations

All gas equipment has been designed for a particular use and purpose. Information must be given at the point of hire of the use and limitations and that deviation from the intended use is likely to be dangerous.

Alterations to appliances are not permitted.

Propane appliances cannot be used indoors for domestic or residential use. They can be used indoors for certain commercial and industrial applications - see UK LPG code of practice No24 part 6.

1.3 Procurement of equipment

All new appliances for commercial catering must be CE-marked in accordance with the Gas Appliance (Safety) Regulations 1995. CE-marking indicates conformity with these Regulations and that a notified body has approved the appliance. Although the Regulations apply principally to domestic appliances, industrial space heaters and commercial catering equipment are covered.

The principal standard that applies to safety standards for gas-fired catering equipment is BS EN 203-1: 2005 Specification for gas heated catering equipment: *Safety requirements*.

1.4 Inspections & Testing

It is important that all appliances, regulators, hoses and associated pipework etc. are regularly inspected, tested and maintained. It is the responsibility of the Owner/Hire Company of the appliances and associated pipework and fittings to ensure it is regularly inspected and maintained. Appliances on short term hire are cleaned, checked and tested after every hire. A competent person should review the state of all plant & equipment to establish the length of time for which it can be used safely before its next inspection, taking into account the time since it was last checked and the number of times it has been hired.

All relevant factors should be taken into account when deciding on the appropriate interval between examinations, including:

- **the safety record and previous history of the plant & equipment**
- **any generic information available about the particular type of system and manufacturers recommendations/instructions.**
- **its current condition, e.g. due to corrosion/erosion etc. (internal and external);**
- **the expected operating conditions (especially any particularly arduous conditions);**
- **the standard of technical supervision, operation, maintenance and inspection in the user's/owner's organisation**
- **Once 'off hired', all equipment must be checked and tested and at least annually if not having been used.**

1.5 Maintenance, Servicing and Repair

Liquefied petroleum gas (LPG) is the main source of fuel for outside catering operations and does present a potential fire or explosion risk. Therefore it is essential than an effective routine maintenance and on-going programme of regular / periodic examinations and servicing is carried out.

Also Regulation 35 of Gas Safety (Installation and Use) Regulations (GSIUR) requires gas appliances, flues, pipe work and safety devices are maintained in a safe condition and they should be inspected by a competent person.

Periods between inspections may vary depending on the equipment and its use and should follow manufacturer's recommendations, but as a general rule, annual inspections will be a reasonable minimum frequency.

The changing of cylinders does not constitute 'work' and

may be done by a person who is trained to do so.

NOTE – For the purpose of this document an 'LPG Installation' refers to a gas appliance or appliances being fed from one or more cylinders fitted with a changeover device, overpressure shut-off device and regulator which regulates the gas supply at the correct pressure and automatically shuts off the supply in the event of an overpressure i.e. regulator failure.

A single mobile appliance powered from a single cylinder is not classified as an 'Installation'.

1.6 Security or LPG Storage & Cylinders

All LPG Cylinders etc. are to be handled and stored in accordance with the current Regulations and UKLPG Codes of Practice.

Access should be limited to authorised persons. People not involved with the installation, for example workers with no responsibility for the LPG or visitors to the site are not authorised. No one should smoke, use electrical equipment or park vehicles near the cylinders.

'No smoking' and other signs should be clearly displayed and maintained.

The cylinders should be protected from unauthorised access to reduce the chance of intentional or accidental interference. For larger storage of cylinders a suitable security fence is required to keep it secure.

1.7 Impact protection

Every effort must be made to ensure that stored LPG cylinders are protected from vehicular traffic. Wherever possible cylinders (and its associated fittings) should not be located in areas where there is motor traffic.

Where this is not possible, then protection from a motor vehicle hitting the cylinders is required such as crash barriers or bollards. A security fence and/or road markings/signage (e.g. 'no-parking' notices, double yellow lines) can add to this protection.

1.8 Information, Instruction and Training

1.8.1 General training requirements for the Supplier

All maintenance staff who service and repair portable gas appliances should be knowledgeable and competent in the issues related to the appliances (which may not be covered by the GSIUR regulations) and equipment relevant to the hire industry. They must be competent to undertake the work but do not need to be Gas Safe Registered as this type of work is conducted in a "factory" which is excluded from the GSIUR regulations

Staff involved in the testing, maintenance and repair for portable gas appliances must have received formal training in order to know how to undertake their work safely & effectively.

Staff involved in maintenance work will need to have proper knowledge of servicing techniques for the particular gas appliance and the maintenance requirements as described by the manufacturer plus the necessary skills to undertake the work.

Staff should attend industry recognised courses which should include but not be limited to the following:-

- **Safety Legislation**
- **Combustion and control systems**
- **Vapour pressure and temperature relationship**
- **Pressure and flow**
- **Pipework installations**
- **Electricity and Ignition sources**
- **Bulk vessel and cylinder safety requirements**

1.8.2 All Drivers should be trained on

- **the potential hazards and dangers of LPG.**
- **safe handling of gas cylinders**
- **emergency procedures and the use of fire fighting appliances**

A record should be kept of all training. The training should be periodically supplemented with refresher training to take account of regulation changes and should be verified upon commencement of employment

1.9 Transportation – Also see appendix 5

1.9.1 Transport of LPG Cylinders

Basic Requirements - The regulations governing the transport of dangerous goods vary according to what dangerous goods are being transported, how much is being transported and the gross weight of the vehicle.

The requirements of the ADR / Transporting Dangerous Goods legislation do not apply to private individuals who carry dangerous goods that are packaged for retail sale and intended for personal use. However even if the load you are transporting is below the threshold limit (see Appendix 5 on page 19) you must still comply with the basic requirements set out below.

Drivers must have received adequate instruction and training. This means that drivers must understand the properties and hazards of LPG, the maximum amount they can transport and the actions to take in an emergency, together with their duties under the regulations.

The employer should keep a documented record of all training.

Any vehicle used to transport LPG cylinders should:

- **be suitable for the task, of adequate strength and in good condition**
- **permit the cylinders to be transported in the upright position**
- **preferably be an open vehicle. If not, it must have adequate and correct ventilation**

Drivers and assistants must not smoke in or near any vehicle that is being loaded or unloaded with or transporting LPG cylinders.

No naked flames or sources of ignition are permitted to be carried or operated on, or in the vehicle.

Appliances may be carried as long as they cannot be operated whilst the vehicle is in motion and their carriage does not present a risk of ignition.

Apart from members of the vehicle crew no passengers should be carried (this is a legal requirement if transporting more than 333 kg's (Net) of LPG.

1.9.2 Carriage in Closed Vehicles

If LPG cylinders are to be transported in closed vehicles the following requirements and restrictions should be applied:

- **A Maximum of 6 cylinders is to be transported**
- **All vehicles should carry the following documentation when carrying LPG**

- 1) The UN number – For Propane “UN 1978, Propane, 2.1 For Butane “UN 1011, Butane, 2.1**
- 2) The quantity of each size and type (Propane or Butane) of each cylinder.**
- 3) The customer’s name and address.**

NOTE – Reference should also be made to UKLPG CoP 27

Other additional safety precautions:-

Cylinder valves must be closed whilst in transit.

Cylinders should be secured properly and should not project beyond the sides or ends of the vehicle.

1.9.2.1 Cylinder or Polo labels

are attached to certain types of cylinders. The labels are produced in accordance with the current legislation and provide safety information for the end user and must never be removed prior to its use by the customer.

1.9.2.2 Vehicle Loading

The load compartment must have adequate vents at the front, centre and rear (or positions recommended by the vehicle manufacturer) to give a flow of air through the load compartment.

The rear ventilation openings should be as low as possible.

Cylinders should be loaded in a single layer and secured to prevent movement;

The cylinders must be upright, with the valve at the top (the outlet connection should be fitted with a blanking cap or plug (FLT type cylinders have a secondary means of closure)

The maximum recommended net quantity of LPG (in cylinders) carried in a closed vehicle should **not exceed 120 kg's**.

1.9.3 The Threshold Quantity calculation

– for transporting gas cylinders

NOTE – This section only applies to mixed loading of LPG and other dangerous goods. If just LPG is being carried then the threshold is always 333Kg without any calculation

To perform the threshold quantity calculation and hence determine whether you are above or below the threshold limit you must:

Determine what transport category the gas you are transporting is in.

Determine the quantity of gas you are carrying for each category and translate this into Points.

Use the correct calculation for your load to identify whether you are above or below the threshold.

1.10 Record Management

It is essential that all service records, checks and maintenance processes are recorded in a form that will be easily retrievable.

The serviceable (In service) label or other means of identifying the condition of the equipment must be securely connected to the item in question and be easily legible.

An example of records is contained within Appendix 10 and these can be downloaded or copied as required from HAE/EHA Web site.

1.10.1 Record keeping

A suitable system for recording and retaining information about the maintenance, testing, use and safe operating instructions along with the requirement to retain service information should be implemented within each organisation. Where specific limits have been specified by the designer or manufacturer, then the operating manual supplied with the system should be used to pass on the information.

Whatever method is used, the information should be readily available to those people who need it, including the competent person responsible for the examinations. It is recommended that the details of the safe operating limits are made available to the person operating the system (under the provision of instructions - see appendix 11) and retained with the documents that need to be kept.

For mobile systems the owner must provide the user with a written statement detailing the safe operating limits or ensure that this information is clearly marked on the equipment. Where the system is likely to be on hire for long periods, both a written statement and durable marking are preferable.

This should ensure that information about the safe operating limits is always readily available.

1.11 Emergency arrangements

Clear information must be given in both pictorial and written forms on the precautions to be taken when the equipment is in use and what to do in the event of an emergency.

It will be the Hirer's responsibility to ensure that such precautions are taken when in use.

1.11.1 Emergency Advice

If you suspect a leak, turn off the gas, open all the doors and windows and extinguish any sources of ignition immediately.

Examine all pipes and connections. If the leak is not located, turn on the gas supply and brush over the connections with leak detection fluid – it will bubble where there is a leak.

If there is a smell of gas;

Do not move the vehicle until the source of the leakage has been found and the vehicle has been declared safe by a competent person.

Increase the load compartment ventilation by fully opening all doors and vents.

Do not turn on any electrical equipment.

1.11.2 Actions in the event of an Emergency

NEVER USE A NAKED FLAME to search for a leak. If you smell gas then isolate the supply as soon as is possible to minimise the release.

In the Event of Fire

Immediately raise the alarm and call the Fire Brigade advising them of the presence of LPG:

- Shut all valves on cylinders.
- Keep cylinders cool by water spray if possible.
- Contact the Event Hire Depot that supplied your equipment.

1.11.3 Basic Emergency Equipment - both

The following equipment should be available on all vehicles when transporting LPG cylinders:

- A 2 kg dry powder fire extinguisher must be carried in the vehicle cab and 1 x 2Kg dry powder fire extinguisher for the load compartment.
- A wheel chock of suitable size must be carried.
- Two free standing warning signs are to be carried.
- A Hi-Vis jacket
- A pair of protective gloves
- A torch
- Goggles
- First Aid Kit & Eye Wash Liquid

1.11.4 Carbon Monoxide

Carbon monoxide (CO) is a highly poisonous gas which can be produced if an appliance is not working correctly. It is difficult to recognise as it has no colour, smell or taste. Symptoms of CO poisoning are similar to that of a viral infection. It affects the mental ability causing a person to become incapable without realising it.

Symptoms of exposure to Carbon Monoxide:

- Tightness across the forehead
- Headache
- Severe headache, weakness, dizziness, nausea, vomiting.
- Coma, intermittent convulsions
- Depressed heart action, slowed respiration

If the exposure has been severe it may cause death. If you suspect you or anyone else is suffering from the symptoms above, turn off all appliances, open doors and windows and get out into fresh air immediately. Obtain medical advice/assistance.

2 Duties and responsibilities of the 'Hirer'

2.1 General Information for the 'Hirer'

All persons hiring catering facilities or portable LPG systems must be provided with adequate information relevant to the hazards associated with equipment being hired. Where necessary and depending on the nature and complexity of the equipment they may need to seek additional advice and guidance on its use.

All hirers and users of the gas appliances must be made aware of its proper use and limitations and daily common-sense visual checks which should be carried out before use. This will include such things as damaged pipe work and connections, inoperative flame supervision devices (these shut off the gas supply automatically if the flame extinguished), missing restraints needed for stability, inoperable wheel locks, knobs and controls etc. and the smell of escaping gas. The user should also ensure there is adequate ventilation to prevent the possibility of carbon monoxide poisoning.

Safe methods of cylinder changing and the proper use of catering appliances. Written details of emergency measures should be included in information provided before the equipment is used.

2.2 Catering Appliances - Use and limitations

All gas equipment has been designed for a particular use and purpose. Information must be given at the point of hire of the use and limitations and that deviation from the intended use is likely to be dangerous.

Alterations to any appliance in any manner whatsoever are not permitted.

Propane appliances cannot be used indoors for domestic or residential use. They can be used indoors for certain commercial and industrial applications - see UKLPG CoP No 24 pt 6

Storage at each catering operation should be kept to a minimum.

2.3 'On Site' set up - How the equipment should be set up on site

The user of the LPG (i.e. the person operating the site) does have responsibilities in relation to the following:

- **Siting of the LPG cylinders and equipment**
- **Ventilation and conditions around the cylinders and equipment**
- **Security (of both and associated pipework)**
- **Impact protection – other on site traffic both vehicular and pedestrian**
- **Emergency arrangements - Appliances must NOT be located to endanger emergency escape routes from the unit.**
- **Have adequate ventilation for the type of appliance**
- **Signage – ensure that adequate and appropriate signage is displayed**

2.4 Siting of Cylinders

Cylinders should be a minimum distance as is possible from the appliance to minimise the length of hose etc. and will also need to take into consideration other installations and traffic routes in the immediate vicinity.

There should not be any drains or gullies near to the cylinders unless a water trap is provided to prevent gas entering the drains. This is because LPG is heavier than air and if a leak were to develop from the cylinder or its controls or pipework or when it is being filled then the vapour could accumulate in an un-trapped drain or gullies. Ignition of these vapours could then lead to fire/explosion.

Cylinders should be sited outside of a temporary structures, out of direct sunlight and as far away as is reasonably practicable from other heat sources.

Note: Cylinders must not be located in any cellars, basements or sunken areas.

Cylinders are not to be changed in the presence of potential sources of ignition including naked lights.

The correct appropriate industry spanner must be used to fit and or remove the regulators (propane)

A visual examination of all cylinders, pipework, appliances, vents and flues should be made daily to ensure that all equipment etc. is and remains in a serviceable and complete condition.

For more permanent installations e.g. on Construction Sites Catering Facilities an inspection of the installation should be made by a Gas Safe registered gas installer at a frequency determined by the 'on site' risk assessment and annually as a minimum.

2.4.1 Siting of Cylinders the Basic rules

- **Cylinders should be used and stored in the upright position**
- **Cylinders should be stored in well ventilated places away from sources of heat, ignition sources and readily ignitable materials**
- **Cylinders must not be stored or used below ground level or in high rise flats where gas is prohibited**
- **Cylinders should preferably be stored outdoors, away from buildings entry/exit points and feature such as drain**
- **Cylinder must not be kept near to any corrosive, toxic or oxidant material**

2.4.2 Security or LPG Storage & Cylinders

The cylinders should be protected from unauthorised access to reduce the chance of intentional or accidental interference. For larger storage of cylinders a suitable security fence is required to keep it secure.

'No smoking' and other signs should be clearly displayed and maintained.

2.5 Hoses and Regulators

Hose lengths should be as short as is reasonably practicable taking into account the safe siting of the gas cylinders and the appliance. All hoses must be secured with proper hose clips (not worm drive screw fitting clips e.g. jubilee clips) and protected from damage, hot surfaces, the accumulation of grease and from splashes of hot oil and fat.

Extensions to flexible hoses must not be used.

All regulators must be connected correctly and securely at all times in accordance with the information provided.

Note: Gas regulators, cylinder valves and hose fittings are precision made. They are designed to make a metal-to-metal gas-tight seal or fitted with a rubber seal. Inspect both surfaces to ensure they are clean and free from debris and that the rubber seal is in place and not damaged before making the connection..

Should you find you are unable to obtain a gas-tight seal, this indicates that something is wrong. If this is the case, do not use the equipment and seek a replacement.

On no account should PTFE tape, thread tape, jointing compound, or any other sealant be used to try to secure a gas-tight seal in a leaking connection.

2.6 Impact protection

Every effort must be made to ensure that stored LPG cylinders are protected from vehicular traffic. Wherever possible cylinders (and its associated piping) should not be located in areas where there is motor traffic.

Where this is not possible, then protection from a motor vehicle hitting the cylinders is required such as crash barriers or bollards. A security fence and/or road markings/signage (e.g. 'no-parking' notices, double yellow lines) can add to this protection.

2.7 Ventilation and conditions around the cylinders

In case of leaks there should be plenty of room around the cylinders to ensure good air flow so that pockets of heavier-than-air LPG vapours cannot build up around them.

It is also very important to keep the area around the cylinder free of rubbish and vegetation particularly if it is combustible or could reduce the levels of ventilation.

2.8 Any open air installation must be

- **On firm and level ground with cylinders secure in the vertical position and accessible at all times**
- **Secure against unauthorised interference**
- **Sited at least 1 metre, measured horizontally, from any ventilation openings or accessible compartments of any adjacent permanent or temporary buildings or structures, or other possible sources of ignition.**
- **Sited at least 2 metres in the horizontal plane from un-trapped drains and unsealed gullies or openings to cellars**
- **Sited at least 3m from any corrosive, toxic or oxidising materials unless a fire resistant barrier is provided**

- **Display an 'Extremely Flammable LPG' and 'No Smoking' sign**
- **Contain only cylinders, regulators, manifolds change-over devices and pipework**

2.10 'In Use' Basic Emergency Equipment

The following equipment should be available on all vehicles when transporting LPG cylinders.

- **A 2 kg dry powder fire extinguisher must be carried in the vehicle cab and 1 x 2kg dry powder extinguisher for the load compartment.**
- **A wheel chock of suitable size must be carried.**
- **Two free standing warning signs are to be carried.**
- **A Hi-Vis jacket**
- **A pair of protective gloves**
- **A torch**
- **Goggles**
- **First Aid Kit & Eye Wash Liquid**

Appendices

Appendix 1 – Terms and Definition

Appendix 2 – Legal and other Requirements

Appendix 3 - BS Standards

Appendix 4 – Other Relevant Information

Appendix 5 - Guidance on loads and vehicles

Appendix 6 – Road Traffic Incidents

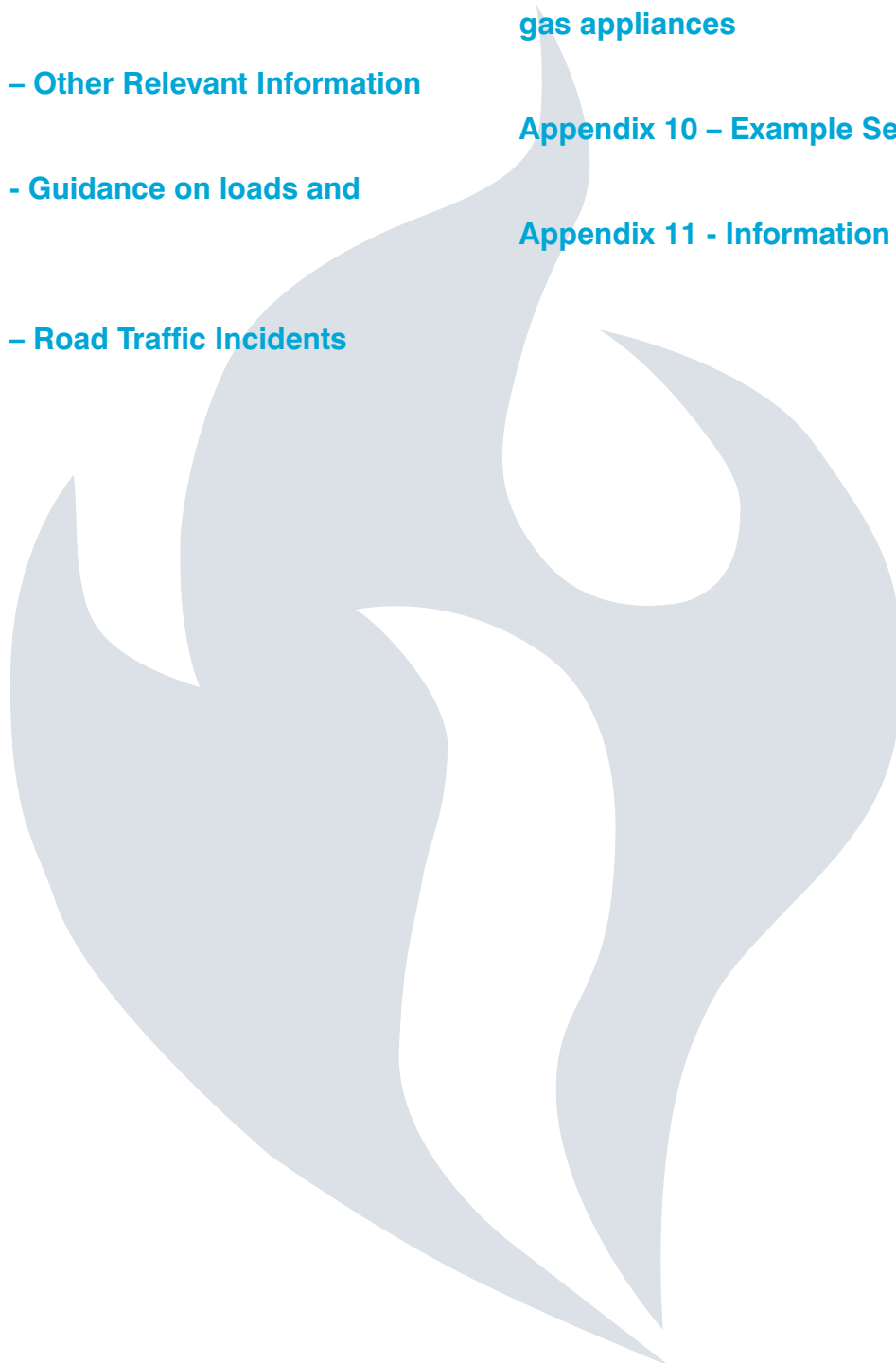
Appendix 7 - Example Pre Use Checks for the hirer

Appendix 8 – Post Use/Return Checks

Appendix 9 – General Guidance - in use gas appliances

Appendix 10 – Example Service Sheet

Appendix 11 - Information in Writing



Appendix 1 Definitions, Terminology & Explanations

LPG.

Liquefied Petroleum Gasses (LPG) is a term given to a range of liquefiable gases which comprise a mixture of flammable hydrocarbon gases used as a fuel which is derived from the distillation of crude oil or the separation from natural gas. The most common are Commercial Propane & Commercial Butane which have different molecular make ups and this results in different properties such as the boiling points at which the gas becomes a liquid under pressure. In the UK these commercial Products are supplied to BS:4250

LPG is heavier than air unlike Natural Gas which is lighter and hence will accumulate in lower areas and is more difficult to disperse.

Odorants are added to ensure that leaks can be detected easily as with natural gas.

Supplier.

an organization that supplies equipment & cylinders for hire.

Hirer.

any person or organization who agrees to hire equipment for a specific purpose.

Carbon monoxide (CO).

is a highly poisonous gas which can be produced if an appliance is not working correctly. It is potentially lethal and is an odourless gas produced by the incomplete combustion of various fossil fuels including LPG.

Gas Cylinder .

gas cylinders are usually seamless or welded steel. New cylinders must comply with the design standards, approval and certification requirements in the Carriage of Dangerous Goods (Classification, Packaging and Labelling) and Use of Transportable Gas Receptacles Regulations 2009 (as amended).

Regulator.

Pressure regulators are intended to control gas pressure from supply pressure (cylinder, bulk or manifolded supplies) to operating pressure.

Hoses.

Rubber hose complying with British Standard BS EN 559, ISO 3821 or equivalent is recommended for use for welding gasses which have an outer protection to prevent damage from the environment they are used in.

For LPG – Type 2 orange hose meeting the requirements of BS 3212 or BS EN 1763 is recommended for LPG vapour-phase applications. Also type 2 black called pigtails can be used for connection between a cylinder outlet valves and a regulator or changeover device and are only supplied as an assembly.

Portable Gas Appliance.

is an item of mobile equipment that is fitted with its own flexible hose and regulator fuelled from a single gas cylinder.

A Gas Installation.

as 1.5 above.

For the purpose of this document an 'LPG Installation' refers to a gas appliance or appliances which are connected to one or more cylinders fitted with a changeover device, overpressure shut-off device and regulator which regulates the gas supply at the correct pressure and automatically shuts off the supply in the event of an overpressure i.e. regulator failure.

A single mobile appliance powered from a single cylinder is not classified as an 'Installation'

Competent Person.

In terms of this document.

Persons involved in the testing, maintenance and repair for portable gas appliances must have received formal training in order to know how to undertake their work safely & effectively.

These persons are required to have proper knowledge of servicing techniques for the particular gas appliance and the maintenance requirements as described by the manufacturer plus the necessary skills to undertake the work.

Also see HSE CoP 20 Approved Code of Practice - Standards of training in safe gas installation where relevant to portable appliances.

Appendix 2 Legal and other Requirements

2.1 The Health and Safety at Work Etc. Act 1974 (HASWA)

The Act imposes general duties on employers and self-employed persons and the duty of care to those who may be affected by their activities.

2.2 Gas Safety (Installation and Use) Regulations 1998 - Approved Code of Practice and guidance.

The Regulations mainly deal with the safe installation, maintenance and use of gas systems, including gas fittings, appliances and flues, mainly in domestic and commercial premises. However the Regulations generally apply to any 'gas' as defined in the Gas Act 1986 and therefore include both natural gas and liquefied petroleum gas (LPG).

2.3 Provision and Use of Work Equipment Regulations 1998 (PUWER)

These Regulations impose health and safety requirements with respect to 'work equipment', which includes any machinery, appliance, apparatus or tool and certain assemblies of components (this would include certain gas appliances/fittings). The requirements address the suitability of work equipment; maintenance and associated records; inspection and associated records; measures to deal with specific risks (including use of designated persons to operate, repair, maintain and service equipment); information, instruction and training of users and others; and other specific areas (e.g. dangerous parts of machinery, protection from high and low temperature, lighting and stability of equipment).

2.4 Workplace (Health, Safety and Welfare) Regulations 1992 (WHSR)

These Regulations impose requirements with respect to the health, safety and welfare of persons in a 'workplace' which, with certain exceptions, covers any premises or part of premises which are not domestic premises and are made available to any person as a place of work.

2.5 Management of Health and Safety at Work Regulations 1999 (MHSWR)

The central feature of these Regulations is the duty imposed on employers and self-employed persons to make a suitable and sufficient assessment of risks to the health and safety of employees, and non-employees affected by their work.

2.6 Construction (Design and Management) Regulations 2007 (CDM07)

These Regulations impose requirements with respect to the health, safety and welfare of persons in a 'workplace' which, with certain exceptions, covers any premises or part of premises which are not domestic premises and are made available to any person as a place of work.

2.7 Pressure Systems Safety Regulations 2000 (PSSR)

The aim of PSSR is to prevent serious injury from the hazard of stored energy as a result of the failure of a pressure system or one of its component parts. The Regulations are concerned with steam at any pressure, gases which exert a pressure in excess of 0.5 bar above atmospheric pressure and fluids which may be mixtures of liquids, gases and vapours where the gas or vapour phase may exert a pressure in excess of 0.5 bar above atmospheric pressure.

2.8 Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR).

These Regulations impose requirements for the purpose of eliminating or reducing risks to safety from fire, explosion or other events arising from the hazardous properties of a 'dangerous substance' in connection with work. This includes flammable gases, such as natural gas, propane and butane.

2.9 Gas Appliances (Safety) Regulations 1995 (GASR)

These Regulations, which implement an EC Directive on gas appliances, require appliances and fittings to which they apply to conform with specified essential requirements and to be safe when normally used. Supply of these products is prohibited unless they bear the CE Marking and safety is underpinned by valid certification/declaration of conformity. The Regulations include detailed procedures for product conformity attestation by third-party notified bodies, appointed by the Secretary of State.

2.10 The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009.

These regulations are applicable to the transport of LPG cylinders and the requirement to carry the ADR 'Instructions in Writing', which replace the Tremcard and the way that the dangerous goods being transported are described. If other dangerous goods are being transported at the same time, additional requirements may apply and the 333 kg limit (before the full requirements apply) will be reduced. For example if two 200 litre drums of Diesel oil were to be transported at the same time as the LPG cylinders the maximum amount of LPG that can be carried (before the full requirements apply) will be reduced to 200 kg.

2.11 Electricity at Work Regulations 1989 – Also note HEA CoP on Portable Appliance Testing

EAW Regulations require that all systems be maintained, so far as reasonably practicable, to prevent danger. This requirement covers all items of electrical equipment including fixed, portable and transportable equipment. Particular actions that can be taken in order to maintain portable and transportable equipment, and thereby prevent danger, are described in paragraph 34 and onwards of HSG 107 which is freely available from the HSE website.

Appendix 3 British Standards

BS EN 12864:2001 + A3:2009

Low-pressure, non-adjustable regulators having a maximum outlet pressure of less than or equal to 200 mbar, with a capacity of less than or equal to 4 kg/h, and their associated safety devices for butane, propane or their mixtures

BS 3212:1991

Specification for flexible rubber tubing, rubber hose and rubber hose assemblies for use in LPG vapour phase and LPG/air installations

BS 3016:1989

Specification for pressure regulators for liquefied petroleum gases

BS 6173

does not apply to LPG catering installations where

appliances are sited temporarily in the open air.

BS 6173:2009

Specification for installation and maintenance of gas-fired catering appliances for use in all types of catering establishments (2nd and 3rd family gases)

BS EN 498:1998 2012

Specification for dedicated liquefied petroleum gas appliances. Barbecues for outdoor use



Appendix 4 Other relevant information

CIS 23

Gas safety in catering and hospitality

National Catering Association – documentation

HSG 195

The event safety guide (Second edition) - A guide to health, safety and welfare at music and similar events.
HSE web pages.

Also the HSE has created a new website for events and can be found at

<http://www.hse.gov.uk/event-safety/index.htm>

HSG 139

Welding & Flame cutting – where reference is made to the storage and handling of gas cylinders

HSE

Approved Code of Practice 20 – Standards of Training in Safe Gas Installations

UKLPG Codes of Practice

UKLPG CoP No. 10 Containers attached to Mobile Gas Fired Equipment

UKLPG CoP No. 21 Guidelines for Safety Checks on LPG Appliances in Caravans

UKLPG CoP No. 24 The use of LPG cylinders

Part 3: The use of LPG in Mobile Catering Vehicles and similar Commercial Vehicles

Part 4: The use of LPG for Catering and Outdoor Functions

Part 6: Use of Propane in Cylinders at Commercial and Industrial Premises

UKLPG CoP 27 – Carriage of LPG Cylinders

UKLPG CoP No. 30 Gas Installations for Motive Power on Mechanical Handling and Maintenance Equipment

British Compressed Gases Association (BGCA)
Guidance notes also available

Appendix 5 Transportation of LPG

Under the 333kg Threshold of LPG on 3.5t open back vehicles

- Drivers should be trained on the hazards, properties, handling and safe transportation of LPG as a minimum level of competence
- PPE should be worn including steel toe cap boots, goggles and gloves
- Bottles over 16kg should be loaded using a tail lift and bottle trolley
- Bottles under 16kg can be loaded by hand over the side of the vehicle
- Never use valves as a lifting point
- Never try to catch a falling cylinder
- Bottles should only be stowed upright not stacked
- Bottles should be secured to the head board behind the cab with ratchet straps to strong anchor points
- 47kg bottles should be secured with two straps distributed towards the top and bottom of the bottle
- No bottles should overhang the sides of the vehicle
- No more than 333kg of LPG in any combination to be transported at any one time, empty bottles should be counted as full for the purpose of this calculation
- All bottle valves should be closed and plugs present and not leaking
- Product information should be available
- Delivery tickets should match the load exactly and manual pads used when dropping off or picking up empty bottles
- IIW and delivery tickets should be displayed on the passenger seat for the emergency services in case they are required and the driver is not able to present them in an emergency
- Any equipment and any sharp objects should be secured away from the bottles
- Mixed loads should be taken into account i.e. Diesel and petrol using the ADR calculator of class 1&2 dangerous goods
- A serviced 2kg Dry powder extinguisher should be present in the vehicle which should be easily accessible for use
- A warning triangle should be carried on board the vehicle
- A torch in winter months should also be on board the vehicle

- In case of emergency raise the alarm and call 999
- Evacuate as many people as possible to a distance of 50 metres if possible
- Only tackle a small fire or leak if safe to do so and approach up wind
- Be aware of jet flames and exploding bottles
- Give emergency services exact details of location and any injuries
- Give emergency services the IIW and delivery notes to identify product and quantity
- No trailers should be towed whilst carrying LPG

Under the 333kg Threshold on open back smaller vehicles – in addition to the points referred to above

- No 47kg bottles should be carried

Under the 333kg Threshold in closed back vehicles – in addition to the points above

- Adequate vents at the lowest point of the vehicle should be present
- A roof fan should be in operation during transportation to assist in ventilation

Over the 333kg Threshold on 3.5t open back vehicles

- Drivers should hold an ADR license
- ADR license to be carried when transporting LPG
- PPE should be worn including steel toe cap boots, goggles and gloves
- Bottles over 16kg should be loaded using a tail lift and bottle trolley
- Bottles under 16kg can be loaded by hand over the side of the vehicle
- Never use valves as a lifting point
- Never try to catch a falling cylinder
- Bottles should only be stowed upright not stacked
- Bottles should be secured to the head board behind the cab with ratchet straps to strong anchor points
- 47kg bottles should be secured with two straps distributed towards the top and bottom of the bottle

- No bottles should overhang the sides of the vehicle
- All bottle valves should be closed and plugs present and not leaking
- Vehicles are required to display Orange Haz-Chem plates whilst transporting LPG and RED Diamond compressed gas warning signs
- Haz-Chem plates and diamonds should be removed when no LPG is present
- Instructions in Writing must be displayed when carrying above the threshold
- Delivery tickets should match the load exactly and manual pads used when dropping off or picking up empty bottles
- IIW and delivery tickets should be displayed on the passenger seat for the emergency services in case they are required and the driver is not able to present them in an emergency
- Any equipment and any sharp objects should be secured away from the bottles
- A minimum of 2 x 2kg Dry powder extinguisher should be present in the vehicle and be easily accessible if required
- Equipment as per IIW should be on-board the vehicle
- In case of emergency raise the alarm and call 999
- Evacuate as many people as possible to a distance of 50 metres if possible
- Only tackle a small fire or leak if safe to do so and approach up wind
- Be aware of jet flames and exploding bottles
- Give emergency services exact details of location and any injuries
- Give emergency services the IIW and delivery notes to identify product and quantity
- No trailers should be towed whilst carrying LPG

Over the 333kg Threshold on open back smaller vehicles – in addition to the points above

- No 47kg bottles should be carried

Over the 333kg Threshold in closed back vehicles – in addition to the points above

- Adequate vents at the lowest point of the vehicle should be present
- A roof fan should be in operation during transportation to assist in ventilation

7.5t Vehicles – All of the above applies

Appendix 6 RTA Incidents

In the event of an accident or emergency that may occur during carriage, the members of the vehicle crew shall take the following actions where safe and practicable to do so:

- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substances involved as soon possible;
- Put on the warning vest and place the self-standing warning signs as appropriate;
- Keep the transport documents readily available for responders on arrival;
- Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind;
- Where appropriate and safe to do so, use the fire extinguishers to put out small/initial fires in tyres, brakes and engine compartments;
- Fires in load compartments shall not be tackled by members of the vehicle crew;
- Where appropriate and safe to do so, use on-board equipment to prevent leakages into the aquatic environment or the sewage system and to contain spillages;
- Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services;
- Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

Appendix 7 Pre use check list – example

- All gas equipment is identified with an individual asset code number.
- Before each hire, the item is thoroughly tested by competent operatives for gas and mechanical safety to ensure it is working correctly and is fit for use.
- There is a thorough visual inspection to ensure the hose is within date i.e. within 5 years of the manufacturing date stated, undamaged and connected securely to the appliance with the correct hose clamp.
- The regulator is inspected for damage on the thread and to ensure it is of the right pressure specification for the appliance.
- The controls and ignition are inspected to ensure they are undamaged and working correctly.
- Handles, wheels and doors etc. are checked to ensure they are working properly and safely.
- Once the visual inspection is complete the appliance is connected to the correct gas cylinder and the seal is tested with an approved leak detector solution to identify any leak. Bubbles in the applied leak detector solution will indicate gas escaping.
- Joins at the tap and other exposed points are sprayed and tested for leaks as above.
- The appliance is turned on and the gas ignited.
- Finally the appliance is run normally to ensure it works properly and, where relevant, the thermostat is functioning correctly.
- A pass certificate is drawn up for the appliance with the asset code number, date of testing and name of tester. This is attached to the appliance.
- The appliance is packaged and protected as appropriate and left ready for hire.
- Records of all tests carried out on gas appliances are kept in a dedicated storage area, filing cabinet etc.

Appendix 8 Pre-use check list

GAS RADIANT HEATERS (CABINET AND PLAQUE)

- 1 Check castors, cabinet or frame for condition, operation, damage or deformity. Ensure cabinet heaters have backs fitted.
- 2 Ensure plaques are secure, not cracked or damaged. A protective grill must be in place in front of plaques
- 3 Check condition of hose and regulator. Regulator must be of the correct type and secured to hose with crimp fittings, not hose clips. Check type of heater against regulator chart.
Cabinet heater butane regulator must be correct size to suit the valve on the cylinder supplied (usually 21mm, but may be 20mm)
- 4 Check operation of ignition unit (cabinet heaters), gas regulating control, pilot light and flame failure device (listen for audible click in gas valve within 45 secs. after extinguishing flame). Check accessible joints for leaks with a soap solution
- 5 Ensure flame burns evenly and clearly
- 6 Clean unit. Fill in and attach check off tag and safety notes, ensure plant nos and LHC markings are clear and legible
Stickers :- do not place clothes on or near this heater, appliance hot when in use.
- 7 Withdraw from service after 5 years (service limit of Atmosphere Sensing Device)

GAS FORCED AIR HEATERS)

- 1 Carry out service as per appropriate electric motor. Check voltage changeover switch is operational.
- 2 Examine frame, castors and body for condition and security. Replace any missing screws from shrouds.
- 3 Check condition of hose and regulator. Regulator must be of the correct type and secured to hose with crimp fittings, not hose clips. Check type of heater against regulator chart.
- 4 Check operation of ignition unit, gas solenoid and flame failure device. Check accessible joints for leaks with a soap solution
- 5 Open flame: Ensure flame burns evenly and cleanly, and fan does not catch housing when running.
Enclosed flame: Burner lights automatically (orange light illuminates), burn should be even without pops or bangs in combustion ducting. Ducting should glow faint red only. Turn off gas and allow to cool down before switching heater off.
- 6 Clean Unit. Fill in and attach check off tag and safety notes, ensure appliance or equipment numbers, LHC markings are clear and legible.
Stickers :- Do not place clothes on or near this heater, appliance hot in use, weight advice, voltage 240V use RCD

Appendix 9 Safe Use of LPG – When Using LPG

Safe Use of LPG - When Using LPG

- Treat the cylinder with care to ensure that the valve is not damaged.
- Always store and use cylinders in the upright position unless there are liquid off-take and marked with a black shroud in which case they may be used horizontally on a FLT.
- Return the cylinder when empty or when not in use for long periods.
- Read the instructions and labels provided with your appliance and keep them handy for future reference.
- Keep the appliance clean and have it serviced regularly.
- Ensure there is an adequate supply of fresh air in the room where your appliance is used. If a room has ventilators or grilles ensure these are open. If a room becomes stuffy, open a window or door immediately.
- Be careful when lifting cylinders. Full cylinders weigh approximately twice the nett weight shown on the cylinder.
- Always allow safe access to the cylinders and the control devices.

What Not To Do When Using LPG

- Do not subject a cylinder to heat as the pressure inside could build up to exceed the safe limit
- Do not attempt to disconnect or unscrew a regulator from any cylinder if the flame does not go out when the cylinder hand wheel is turned off. Leave appliance alight and call your local Event Hire Depot.
- Do not store or use cylinders in cellars or below ground level. LPG is heavier than air and if there is an escape the gas will collect at low level, can be an asphyxiate, and can become dangerous in the presence of a source of ignition including flames or sparks. For the same reason;
- Do not store cylinders any closer than 2 metres from un-trapped drains, unsealed gullies or openings to cellars.
- Do not under any circumstances improvise or modify any gas appliance. Do not let unqualified people tamper with or service your equipment, it could become unsafe to use. Always ask your Event Hire Depot for advice.
- Don't attempt to force a regulator of one size on to a cylinder's valve of another size. If you have any difficulties contact your Event Hire Depot and have the appliance checked.

Limitations:-

Drivers should be trained on the hazards, properties, handling and safe transportation of LPG as a minimum level of competence

Regulators

A regulator must be included in the connection between the cylinder and the appliance.

The regulator is precisely set by the manufacturer to control the pressure of the supply.

If a Regulator shows signs of wear, it should be replaced.

Regulators must be marked BS3016 or BS EN12864

Flexible Hose

Use only certified hoses to BS3212 or BSEN1763 which bear the year and name of manufacturer

LPG attacks and erodes natural rubber.

Keep hose lengths as short as possible.

All hoses must be secured with proper hose clips or crimps so that they are secure – Note that worm drive screw fixing e.g. Jubilee clips are not to be used.

Make sure that the hoses are kept clear of 'hot spots' and inspect them from time to time.

Replace any hose that shows signs of wear, cracking or other damage.

Emergency Advice

If you suspect a leak, turn off the gas, open all the doors and windows and ensure there is no source of ignition nearby i.e. extinguish any cigarettes and switch off your mobile phone.

Examine all pipes and connections. If the leak is not located, turn on the gas supply and brush over the connections with liquid detection fluid – it will bubble where there is a leak.

NEVER USE A NAKED FLAME to search for a leak.

A suitably calibrated Explosimeter may be used for testing the concentration of LPG in the air, but Propane has a special odorant added to help with the detection of leaks.

In the Event of Fire

Immediately raise the alarm and call the Fire Brigade advising them of the presence of LPG

- Shut all valves on cylinders.
- Keep cylinders cool by water spray if possible.
- Contact the Event Hire Depot that supplied your equipment.

Appendix 10

<u>ABC Limited</u> General information	Test Result	Date
<p> Pre-Hire Inspection Record Type of Plant Equipment or Appliance Number Description Date Serviced </p> <p> 1. Electrical connections etc. Casings & Chassis Cable & Entry Plug & Fuse Fuse Rating (230v Equipment) Input Voltage Earth Bond Resistance Insulation Resistance (Flash Test) Rated Operating Current </p> <p> 2. Gas Connections -LPG Specific Hose & Fittings check for leaks Regulator Ignitor Operation Flame failure devices Plaques (radiant heaters) Burners & Flame Operation & Run Test Cleaned Warning Labels Safety Instructions Attached </p> <p> General conditions Water Reservoirs & Traps Casings Stands, legs & wheels Lids, covers Griddles, rotisseries and other Switches, knobs and control mechanisms Other general - Tables rests etc. </p> <p> Depot Number Name & Works Number Equipment or Appliance Number Next Test Due </p>	<p> Amps 110v 230v 415v Ohms Volts Amps </p> <p> Bar / Millibar </p>	

Appendix 11

Information in Writing as required for all loads above the threshold quantity.

INSTRUCTIONS IN WRITING

Actions in the event of an accident or emergency –

In the event of an accident or emergency that may occur or arise during carriage, the members of the vehicle crew shall take the following actions where safe and practicable to do so:

- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substances involved as possible;
- Put on the warning vest and place the self-standing warning signs as appropriate;
- Keep the transport documents readily available for responders on arrival;
- Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind;
- Where appropriate and safe to do so, use the fire extinguishers to put out small/initial fires in tyres, brakes and engine compartments;
- Fires in load compartments shall not be tackled by members of the vehicle crew;
- Where appropriate and safe to do so, use on-board equipment to prevent leakages into the aquatic environment or the sewage system and to contain spillages;
- Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services;
- Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

“ This Code of Practice (CoP) recommends good working practices for the management of LPG in the Hire Industry ”

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This Code of Practice (CoP) has been developed and written by Hire Association Europe (HAE) with the combined assistance and guidance of the following:

Hire Association Europe members

Event Hire Association members

Health & Safety Executive (HSE)

Vehicle and Operators Safety Agency (VOSA)

Calor

In addition a number of equipment manufacturers and training organisations also provided contributions.

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“ This Code of Practice (CoP) recommends good working practices for the management of LPG in the Hire Industry ”





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