



Use of gas appliances in public venues



This publication will assist event organisers, venue organisers, asset managers and catering vendors to comply with the safety requirements for the use of gas appliances in public venues.

Preface

This guide does not take precedence over the regulatory requirements, which are administered by EnergySafety in Western Australia.

Suggestions and comments to improve this guide are welcome and can be forwarded to:

Principal Engineer Gas Utilisation

EnergySafety

Department of Commerce

303 Sevenoaks Street

Cannington WA 6107

Telephone: 08 9422 5200

Facsimile: 08 9422 5244

Email: energysafety@commerce.wa.gov.au

Internet: www.energysafety.wa.gov.au

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1. Scope

Public venues include, but are not limited to, convention and exhibition centres, pavilions, halls, recreation centres, fairs, fetes, stalls, tents or marquees and mobile catering vehicles where the community is attending exhibitions, shows, displays, festivals, conventions and the like.

Public venues may be either temporary or permanent structures. A temporary structure is considered to be a structure that is only in place for a period of two weeks or less. A permanent structure is considered to be a structure that is in place for a period exceeding two weeks.

2. Definitions and terms

The Act – refers to the *Gas Standards Act 1972*.

EnergySafety - the EnergySafety Division of the Department of Commerce, is the State's regulatory agency that administers the *Gas Standards Act 1972* and the Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 (Regulations).

Director of Energy Safety - the head of EnergySafety who is appointed under Section 5 of the *Energy Coordination Act 1994*.

Gas consumption - the rate of energy consumed by an appliance under specific conditions and is expressed in megajoules per hour (MJ/h).

Type A gas appliance - a gas appliance of a class or type as specified in Regulation 42B of the Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999. These appliances are mainly domestic or commercial gas appliances, such as:

- domestic cooking appliances eg hot plates and cookers;
- commercial catering equipment eg ovens, solid grill plates and fryers;
- water heaters;
- laundry dryers; and
- space heaters.

Type A gas appliance inspector - an inspector designated by the Director of Energy Safety to inspect and approve Type A gas appliances.

Registered gas fitter - a person registered with EnergySafety or an interstate authority that has been issued with a permit, certificate of competency or licence to carry out work on a consumer's gas installation. This is in relation to doing or supervising the work. A Class G type licence classification applies to domestic and commercial work.

Certifying body - an organisation recognised by the Director of Energy Safety to certify gas appliances and components.

Mobile catering vehicles - include trailers, converted caravans, self-propelled vehicles and large semi-trailers that provide prepared food.

3. Gas types and appliances

3.1 Gas types

There are two main gases used in Western Australia for cooking and heating purposes. These are natural gas and liquefied petroleum gas (LP Gas).

3.2 Gas supply

Natural gas is supplied by reticulation throughout the Perth metropolitan area and in some regional cities or areas, such as Bunbury, Geraldton and Mandurah. Natural gas may be available at some public venues or be made available for permanent or semi-permanent use.

LP Gas is mainly supplied throughout the State in refillable cylinders. LP Gas is used for short-term events because of its availability and portability. LP Gas is also supplied by reticulation to villages in some regional areas, such as in Margaret River and Albany.

3.3 Gas appliances

The most commonly used gas appliance at public events is the Type A commercial catering appliance. Occasionally, Type A domestic appliances are also used and tend to be outdoor barbecues. The broad types of gas appliances are as follows:

- Gas commercial appliances at public venues are favoured by catering providers operating from permanent or temporary structures. These robust appliances can include oven ranges, fryers, hot cupboards, bain-maries and kebab cookers.

Commercial appliances are designed, manufactured and certified to standards different from those for domestic appliances. They are made for the heavier usage in restaurants, hotels and fast food outlets. Due to the amount of fats, greases and odours generated by the usage of catering appliances, Local Health Authorities may require a canopy exhaust system to be fitted.

- Domestic outdoor appliances are designed, manufactured and certified for domestic outdoor use only. They are not subject to the stringent testing for emissions that are applied to indoor appliances as they are only to be used outdoors in a well-ventilated area.

Domestic outdoor appliances may have some application for public venues if they are used outdoors in a well-ventilated area.

- Domestic indoor appliances for indoor use only, may have some limited application in public venues.

4. Requirements for gas appliances and cylinders

4.1 Approval requirements

It is an offence under the Act to sell, hire, advertise for sale or install a gas appliance without first meeting the approval requirements of the Director of Energy Safety and having the appliance badged. The Australian Gas Association (AGA) National Product Certification Scheme, SAI Global Gas Safety Certification Scheme and IAPMO R&T Oceana GasMark Certification Scheme are certification schemes conducted by the AGA, SAI Global and IAPMO R&T Oceana respectively. All of these bodies are recognised by the Director as competent for the purpose of certifying series-produced Type 'A' gas appliances and components for the purpose of approval.

Listings of certified gas appliances can be viewed on-line at:

- www.gas.asn.au for the AGA current Product Directory;
- www.sai-global.com.au for the SAI Global current Product Certification list; and
- www.iapmooceana.org/ for the IAPMO R&T Oceana Product Listing Directory.

If appliances do not have AGA, SAI Global or IAPMO R&T Oceana certification then they must be individually approved by a Type A Gas Appliance Inspector and have an EnergySafety approval badge attached.

4.2 Storage of LP Gas

Minor storage and usage of LP Gas

The use and storage of LP Gas cylinders indoors, whether full or nominally empty must be avoided wherever practicable. Cylinders should preferably be located outdoors in suitable areas. It is also recommended that venue operators consult their public liability insurers on whether they allow the use of LP Gas cylinders indoors.

Where it is impracticable to provide outdoor storage, cylinders should be stored without causing a hazard and meet the requirements for Minor Storage of the Australian Standard, AS 1596: The storage and handling of LP Gas.

For example, in protected and public places, LP Gas storage shall conform to the following:

- outdoors, maximum quantity of 60kg and maximum cylinder size of 15kg; and
- indoors, maximum quantity of 30kg and maximum cylinder size of 15kg.

Note: 10kg of LP Gas is equivalent to a cylinder of 25L water capacity.

Grouped temporary structures

Where there are temporary structures of a public venue grouped together, such as a group of marquees, stalls or tents at a show, there should only be a maximum of 10 structures using LP Gas in any such group. Groups of temporary structures using LP Gas should be separated by at least 15m. The intervening space may be occupied by temporary structures in which no flammable gas or liquids are kept (Refer to Figure 1).

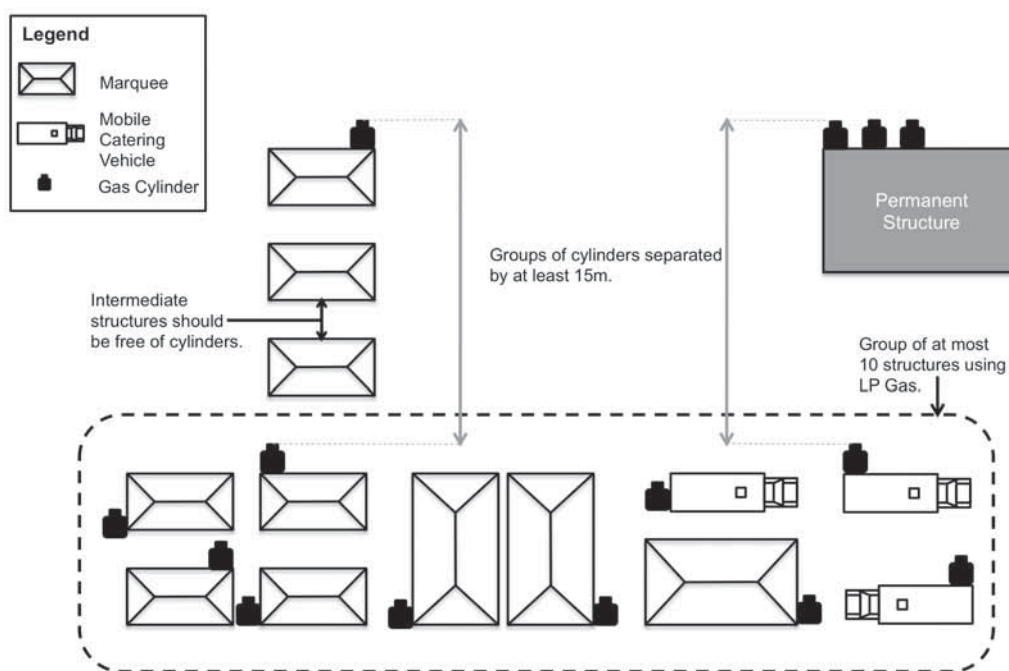


Figure 1: LP Gas cylinders in groups of temporary structures

4.3 Ventilation requirements for gas appliances

Gas appliances need adequate ventilation to ensure that there is sufficient air for combustion (for gas to burn safely) and to dilute the products of combustion to safe levels.

Domestic indoor appliances

Domestic indoor appliances are designed, manufactured and certified for domestic indoor use only and undergo stringent testing to ensure emission levels maintain adequate indoor air quality. They are only to be used in an indoor area of a public venue.

If the gas consumption of the appliance exceeds 3MJ/h for each cubic metre of the room or enclosure volume, the space needs to be ventilated in accordance with the requirements of Australian Standard AS/NZS 5601: Gas installations, that is referred to by the Regulations.

Domestic outdoor appliances

When appliances are used in an outdoor area of a public venue, there is usually adequate natural ventilation. However, there may be some 'semi-outdoor' situations where there is possibly inadequate ventilation, such as alfresco areas, balconies, verandas, patios, marquees and tents. Refer to Figure 2 and the explanation below for defined outdoor areas that are acceptable.

An area is considered 'outdoors' in a public venue when it is an open-air situation with natural ventilation that ensures stagnant areas do not form, as these prevent the products of combustion from being rapidly dispersed by wind and natural convection. Also, in the unlikely event of a gas leak occurring, the area must permit escaping gases to be rapidly dispersed. The following situations are considered to provide the natural ventilation required for an outdoor appliance to be used in a public venue:

- four open sides with a roof or overhead cover;
- four enclosed sides (walls) without a roof or overhead cover;

- two parallel walls or two walls at right angles to each other with a roof or overhead cover; and
- three walls, with the one open side having at least 25 per cent of the total wall area and the remaining three walls having an area of 30 per cent or more of unrestricted opening, with a roof or overhead cover.

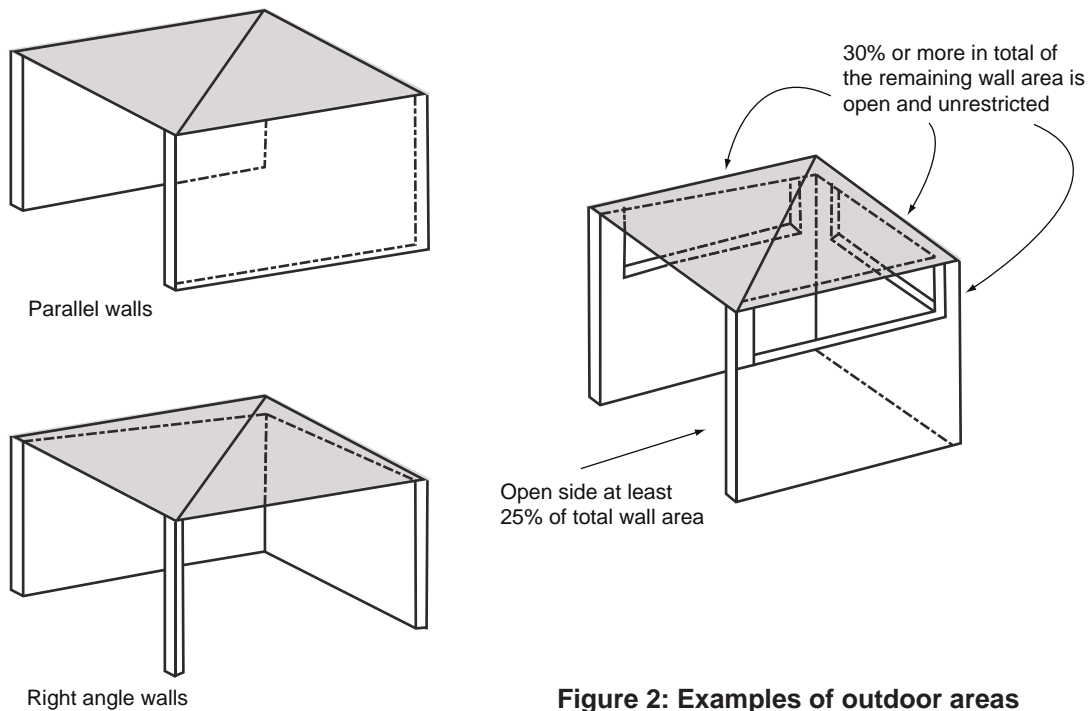


Figure 2: Examples of outdoor areas

Commercial appliances

A commercial gas appliance may be permitted in a permanent public venue and in mobile catering vehicles, provided a mechanical ventilation system is installed complying with Local Government requirements. Local Government requirements include reference to compliance with the Australian Standard AS 1668.2: The use of ventilation and air conditioning in buildings.

4.4 Clearances

Clearances required for gas appliances installed indoors or outdoors in public venues are as follows:

- Minimum clearances and protection of combustible surfaces as specified in the regulations and the Australian Standard AS/NZS 5601: Gas installations, include the following:
 - 1,350mm minimum vertically above commercial appliances such as Chinese cooking tables, griddles, barbecues and chargrilles from the cooking surface to the grease filter and 250mm laterally from any combustible surface; and
 - 1,200mm for domestic barbecues is to be maintained between the barbecue cooking surface and the ceiling, roof or overhead cover to avoid the risk of combustion occurring on surfaces laden with grease deposits.
- The manufacturer's installation instructions except where these conflict with the regulations or AS/NZS 5601: Gas installations.

4.5 Installing appliances

- The installation of appliances must meet the requirements as specified in AS/NZS 5601: Gas installations.
- The gas supply piping to the appliances is permanently connected and fitted with a clearly identified manual-isolating valve located in a safe, accessible position remote from the appliances.

4.6 Mobile catering vehicles

Mobile catering vehicles include caravans, trailers and transportables.

Gas installations installed for catering purposes are required to conform to Australian Standard AS/NZS 5601: Gas installations. It is highly recommended that the venue organisers/administration request that attending catering vehicles have been checked and tested by a licensed gas fitter in the last 12 months and the owner provide evidence of this together with their application to operate at the event.

5. Examples of conforming gas installations in public venues

5.1 Permanent structures

Four examples of permanent structures are given below. These are:

- an exhibition centre with a kitchen commercial gas appliance;
- an outside building LP Gas cylinder bank enclosure;
- an indoor exhibition centre with an outdoor gas barbecue display; and
- an indoor exhibition centre with an indoor gas heater display.

Example 1: Exhibition centre kitchen commercial gas appliance

Figure 3 is an example of a permanent structure with installed commercial gas appliances.

- The gas supply is reticulated and installed throughout the building in accordance with the requirements of AS/NZS 5601: Gas installations.
- The gas supply piping to appliances is permanently connected.
- The kitchen meets the acceptable criteria for ventilation of a commercial gas appliance with an installed mechanical ventilation system that complies with Local Government requirements and AS 1668.2: The use of ventilation and air conditioning in buildings.

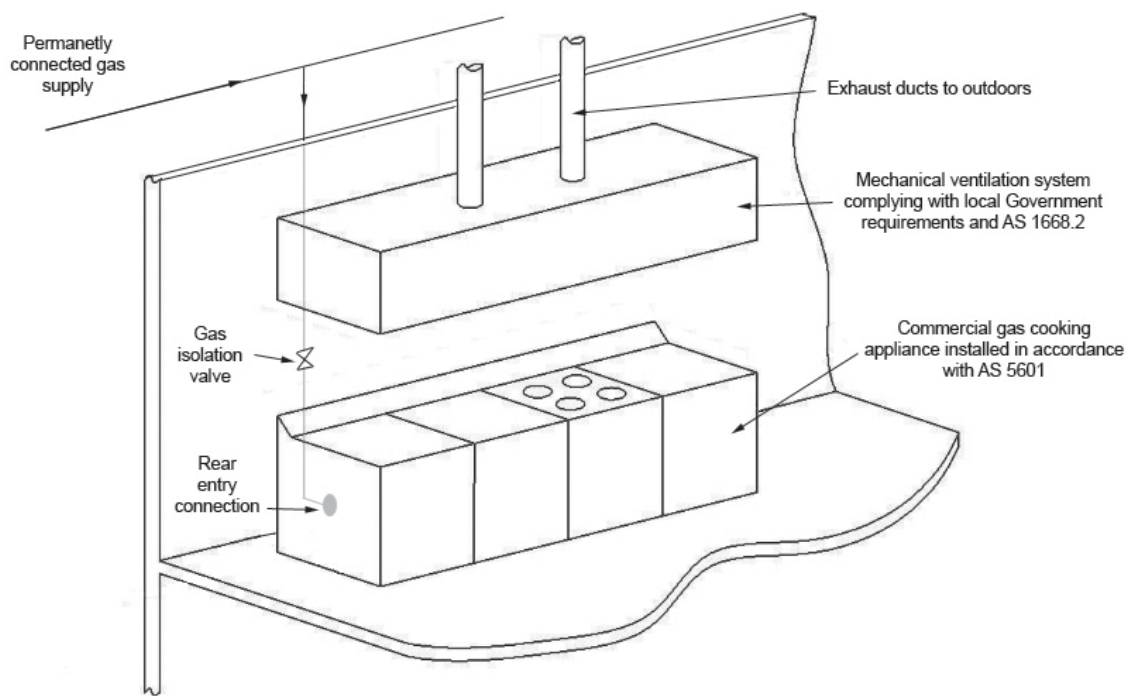


Figure 3: Permanent structure - Kitchen (commercial) in exhibition building

Example 2: LP Gas cylinder bank outside of building

Figure 4a and 4b are examples of a permanent structure with an LP Gas supply from an LP Gas cylinder bank installed outside of a building.

- From the LP Gas cylinder bank the gas supply is reticulated and installed throughout the building in accordance with the requirements of AS/NZS 5601: Gas installations.
- The gas supply piping to appliances is permanently connected.
- As the LP Gas is stored outdoors it meets the acceptable criteria for storage of cylinders.
- If the cylinders are accessible by the public they are required to be in a ventilated cage which shall be locked when not in use to prevent tampering.

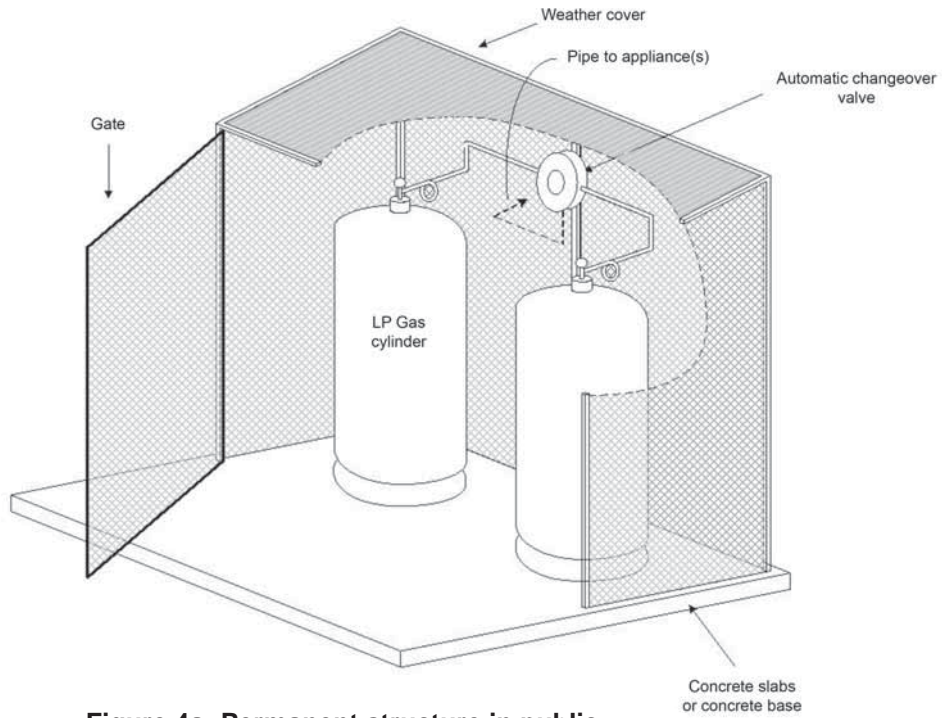


Figure 4a: Permanent structure in public - LP Gas cylinder installation - Fence enclosure

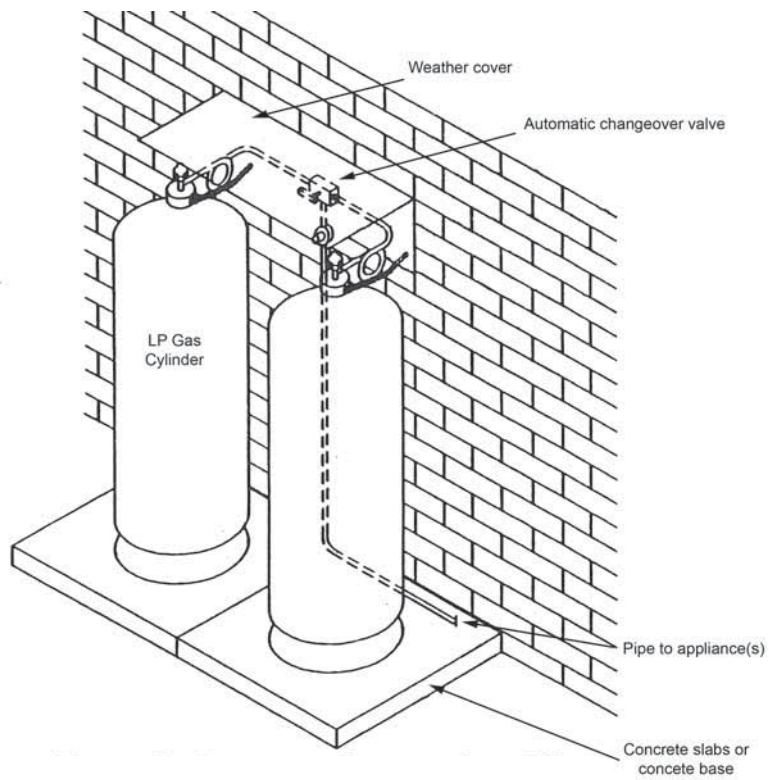


Figure 4b: Permanent structure in public - LP Gas cylinder installation - No enclosure

Example 3: Exhibition centre with outdoor gas barbecue display

Figure 5a shows examples of a conforming installation in a permanent structure and a non-conforming installation with an exhibition venue using outdoor gas barbecues.

Approved outdoor appliances such as gas barbecues can only be used outdoors.



Figure 5a: Permanent structures - Examples of conforming (denoted with ✓) and non-conforming (denoted with X) installations

Example 4: Exhibition centre with indoor gas heater display

Figure 5b shows examples of a conforming installation in a permanent structure and a non-conforming installation in an exhibition venue where the gas heater approved for indoor use must be flued to discharge outdoors.

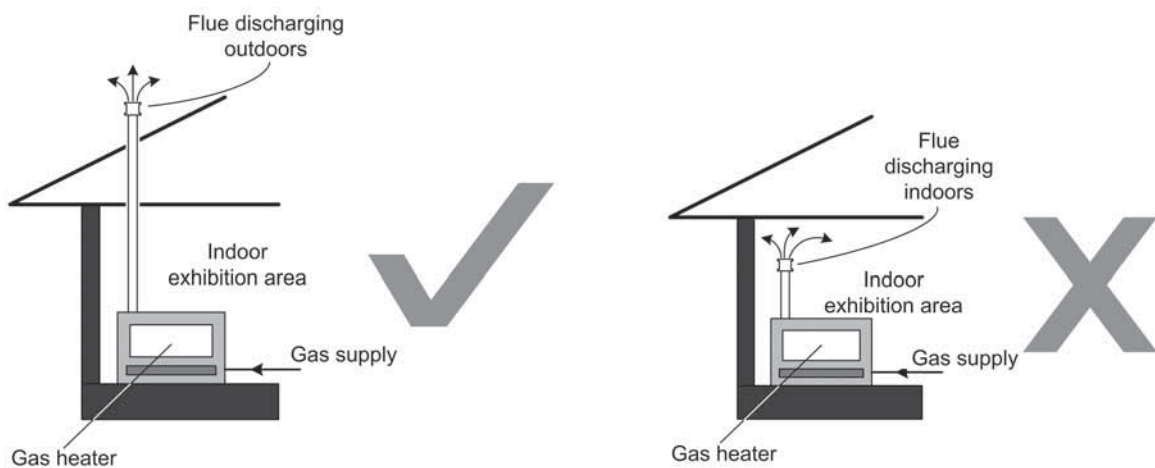


Figure 5b: Permanent structures - Examples of conforming (denoted with ✓) and non-conforming (denoted with X) installations

5.2 Temporary structures

Example: Tent or marquee with outdoor gas appliance

Figure 6 is an example of a temporary structure in a public venue with installed outdoor gas appliances in a tent or marquee.

- The gas supply is reticulated and temporarily installed so that it is protected by the structure.
- If the cylinders are accessible by the public they are required to be protected to prevent tampering and accidental dislodgement.
- The gas supply piping to appliances is connected temporarily from a gas manifold located outside.
- The defined outdoor area of the marquee or tent meets the acceptable criteria for ventilation of the outdoor gas appliance, as both sides are fully open.

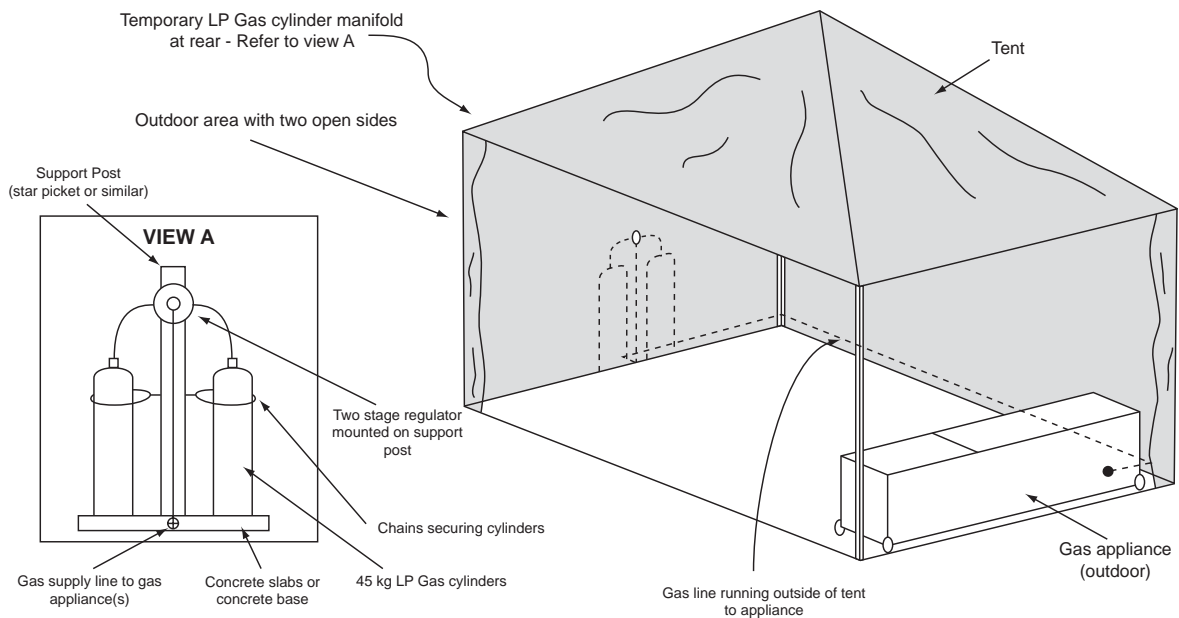


Figure 6: Temporary structure - Marquee or tent at show/fair grounds

5.3 Mobile catering vehicles

Example: Trailer or converted caravan with an integral gas appliance

- The gas supply is connected from an LP Gas cylinder manifold consisting of two 45kg capacity cylinders delivered to the site and then secured externally to the trailer or in a compartment sealed from the inside of the trailer.
- The gas piping from the cylinders to the appliance is run underneath the trailer and is protected from damage with all joints accessible.
- The trailer meets the acceptable criteria for ventilation of a commercial gas appliance as a mechanical ventilation system is installed.
- If the cylinders are accessible by the public, they are required to be protected to prevent tampering and accidental dislodgement.

6. Regulatory requirements

Information provided in this publication does not take precedence over the *Gas Standards Act 1972* and the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 (Regulations)* which are administered by *EnergySafety*.

Schedule 7 of the Regulations also refers to Australian Standards and codes containing requirements for consumer's gas installations, such as:

- AS/NZS 5601: Gas installations; and
- AS 1596: The storage and handling of LP Gas.

All gasfitting work in WA must be carried out in accordance with the Regulations by licensed gas fitters. Piping materials must conform to the requirements of the Regulations and Standards.

EnergySafety may carry out on site gas safety inspections of gas appliances before and while being used in public venues to ensure conformance with the Act, Regulations and Australian Standards. *EnergySafety* reserves the right to require immediate correction of any unsafe condition. Failure to comply with the Act or Regulations may result in the issuing of an Infringement Notice, Notice of Defect or Inspector's Order with significant penalties.

7. Contacts

Gas suppliers

In WA there are a number of gas suppliers who may be contacted about installation of gas appliances in temporary or permanent structures. These include the following:

| Gas supplier | Phone number |
|---|--------------|
| WestNet Energy (AlintaGas Networks Pty Ltd) | 13 13 56 |
| Elgas Limited | 6465 8560 |
| BOC Limited (LP Gas) | 9456 6700 |
| Origin Energy (LP Gas) | 9439 9999 |
| Wesfarmers Kleenheat Gas Pty Ltd (LP Gas) | 13 21 80 |
| Gas Cylinders Australia (LP Gas) | 9456 4602 |
| Australian Safety Engineers (LP Gas) | 9456 2066 |
| Hills Gas Supply (LP Gas) | 9291 5551 |

Note: Before installing a gas appliance inside a public venue, it is recommended that advice on the installation be obtained from the relevant gas supplier.

EnergySafety

EnergySafety can be contacted during business hours 8:30am to 5:00pm weekdays on 08 9422 5200 or after hours on 1800 678 978.

8. Checklist for gas installations in public venues

Complete the following checklist before an event to ensure the safety compliance of installed natural or LP Gas supplies to permanent or temporary public venues.

The checklist is to be completed by either (or a combination of) the following: event organiser/venue organiser/asset manager/catering vendors of the public venue for which a particular gas is supplied.

If it appears that you have an unsafe gas installation then seek assistance as soon as possible from the gas supplier or EnergySafety.

Gas safety checklist for caterers, food outlets and others at public venues

Complete this checklist before the start of the event. All questions should be answered as accurately as possible.

If it appears that you have an unsafe gas installation, seek assistance from a licensed gas fitter. EnergySafety can provide advice to event organisers about gas safety.

EnergySafety may carry out on site gas safety inspections of gas appliances before and during use in public venues to ensure compliance with the Act, Regulations and Australian Standards. EnergySafety can require immediate correction of any unsafe condition. If you fail to comply with the Act or Regulations EnergySafety may issue an Infringement Notice, Notice of Defect or Inspectors Order with significant penalties.

How to complete the check list

Start at the gas meter for natural gas and at the LP Gas cylinders for a LP Gas supply and proceed towards the gas appliances.

Answer each question if the situation is appropriate. The preferred answer is indicated by a shaded box.

If the answer to a question is not the preferred one, the remedy may be quite simple. For example, a cylinder obstructing an exit should be moved.

If you are unsure about a question or an answer, contact EnergySafety on 9422 5200.

When the check list is completed

Please give the original checklist to the site administrator and keep a copy for the duration of the event. You may be requested to produce it as part of a site safety audit. Make sure any remedial work is carried out **before** the event commences.

Guide to gas installations

Fixed gas appliances and pipe work must only be installed by a licensed gas fitter, who must:

- provide a Notice of Completion;
- produce their licence on request; and
- attach a compliance badge to the installation.

If a gas leak is suspected:

- turn off appliances;
- turn off gas supply;
- do not use any ignition sources; and
- seek assistance.

Note

To obtain copies of the checklist, you can:

- photocopy the required numbers from this booklet;
- download it from the website: www.energysafety.wa.gov.au; or
- telephone 9422 5200 for additional copies.

Checklist – please print clearly

| | |
|---|-----|
| Event: | |
| Venue or site administrator | |
| Contact person's name: | Ph: |
| Event organiser | |
| Contact person's name: | Ph: |
| Responsible person nominated for venue or site at event | |
| Contact person's name: | Ph: |
| Vendors and any other gas consumers at event | |
| Business name: | |
| Location of business at the event: | |
| Type of business structure (caravan, marquee etc): | |
| Responsible business person's name: | Ph: |
| Business name: | |
| Location of business at the event: | |
| Type of business structure (caravan, marquee etc): | |
| Responsible business person's name: | Ph: |
| Business name: | |
| Location of business at the event: | |
| Type of business structure (caravan, marquee etc): | |
| Responsible business person's name: | Ph: |
| Person completing checklist | |
| Venue or site administrator/event organiser/vendor/other (Circle which applies) | |
| Name: | Ph: |

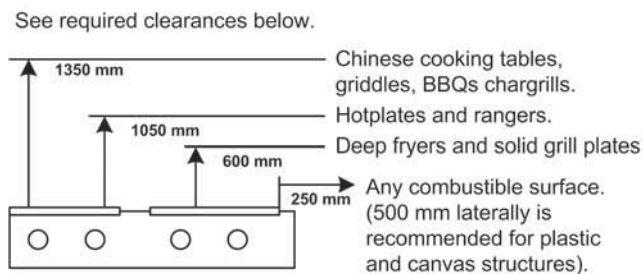
For gas technical advice:

Phone: 9422 5200 Fax: 9422 5244

www.energysafety.wa.gov.au

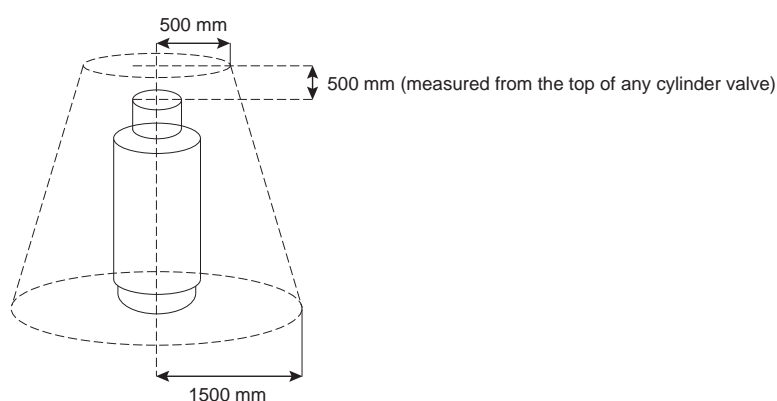
Gas appliances

| Checklist | Yes | No |
|--|-----|----|
| Are gas appliances designed to be used outdoors (barbecues and the like) installed outdoors? | | |
| Are indoor gas appliances to be used and is there adequate ventilation and fluing? | | |
| If commercial gas appliances are to be used, then are they fitted with exhaust hoods or canopies installed to local building requirements? | | |
| Have appliances been checked within the last 12 months by a qualified person? | | |
| Have additions or alterations been made to the installation since the last check? | | |
| Are appliances labelled with an AGA, SAI Global, IAPMO R&T Oceana or EnergySafety approval badge? | | |
| Have safety devices been tampered with? (If unsure contact a gas fitter) | | |
| Do thermostats work? | | |
| Do ignition devices work? | | |
| Are supply pipes or hoses in good condition? | | |
| Have joints been tested for gas leakage with soapy water? | | |
| Are combustible materials and customers clear of appliance? | | |
| Are combustible surfaces within the distances shown in the illustration below? | | |



Gas cylinders (LP Gas installations only)

| Checklist | Yes | No |
|---|-------------------------------------|-------------------------------------|
| Are gas cylinders damaged, rusty or over 10 years old? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are cylinders in use situated outside the caravan or structure? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Are spare cylinders, full or empty, stored externally? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Are cylinders blocking an exit? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Are cylinders on a level, non-combustible surface? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Are cylinders secured in an upright position? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Are cylinders in a well ventilated position? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Is cylinder safety outlet facing away from the structure? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Are cylinders protected from tampering? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Is the area shown below clear of ignition sources? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |



Safety procedures

| Checklist | Yes | No |
|--|-------------------------------------|--------------------------|
| Do staff know what to do in an emergency? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Is there a suitable fire extinguisher handy? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Has someone been trained to exchange gas cylinders? (LP Gas installations only). | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Department of Commerce

EnergySafety Division

Level 1, 303 Sevenoaks Street (Cnr Grose Ave) Cannington WA 6107

Telephone: (08) 9422 5200

Facsimile: (08) 9422 5244

National Relay Service: 13 36 77

Mailing address: PO Box 135 Cannington WA 6987

Website: www.energysafety.wa.gov.au

Email: energysafety@commerce.wa.gov.au

Energy incident notification (24 hours): 1800 678 198

Department of Commerce regional offices

Goldfields/Esperance (08) 9026 3250

Great Southern (08) 9842 8366

Kimberley (08) 9191 8400

Mid-West (08) 9964 5644

North-West (08) 9185 0900

South-West (08) 9722 2888

If you require the services of an interpreter, contact the Translating and Interpreting Services (TIS) on 131 450 and ask for connection to EnergySafety on 9422 5200.

This publication is available on request in other formats to assist people with special needs.

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