

Risk Management Guidance: Church Tower Beacon

Background

The beacon is fuelled by Liquefied Petroleum Gas (LPG) which is the generic term used to describe propane, butane, or mixtures of the two gases. It is a colourless liquid which readily evaporates into a gas and has no smell although an odour is added to help detect leaks.

LPG can be a hazard. Why....

It is extremely flammable and readily combines with air to form an explosive mix. If this mix is exposed to an ignition source it can result in an explosion and intense fires.

It is heavier than air and will collect at the lowest levels of buildings and flow along the ground. It is supplied in pressurised steel cylinders which can explode if they are involved in a fire.

Safety precautions are essential when using any LPG appliances and there are a number of commonsense measures such as only storing and using LPG in well ventilated areas and not storing or using in cellars, basements, culverts, gullies and drains that can be followed to reduce risks. The undernoted checklist, which is not exhaustive, provides guidance on safe installation and use.

Location of the beacon:

The beacon does not need to be located on a tower and there are significant hazards in doing so. Locating on a tower will bring the LPG cylinders into close proximity to the buildings, reduce the operational working area as well creating access/egress and working at height issues. It will also increase the potential for manual handling problems – remember suitable LPG cylinders can have a gross weight in excess of 40kg.

We strongly recommend that the beacon is located at ground level away from buildings.

Before the event

- Plan, prepare and understand the event
 - (i) Inform the emergency services what you are planning. Write first aid and emergency procedures, including fire fighting and evacuation procedures. HSE recommend evacuation of the area, not fire fighting
 - (ii) Review and update existing risk assessments, particularly fire and manual handling assessments
Specific risk assessments should be created for the event
 - (iii) Identify key personnel to control and manage the event
 - (iv) Nominate suitably competent persons to assemble, install, operate, connect and disconnect appliances and regulators. It is critical that persons who have the responsibility for the use and storage of LPG understand the characteristics and hazards of the product. Consider training if necessary. Provide beacon manufacturer's instructions, ensure understanding and compliance. Only the propane cylinders designated by the equipment manufacturers must be used
 - (v) Arrange for delivery of equipment as close to the start of the event. LPG cylinders must be stored pre event at ground level in designated safe, secure, well ventilated areas away from occupied buildings and ignition sources and not inside the church
 - (vi) Create segregated public and non public operational areas
 - (vii) Consider weather forecasts and wind direction
- Check assembled beacon for leaks using equipment provided. Never use a naked flame to look for leaks.

During the event

- The beacon must be located on a level, non combustible surface, suitably fixed by the supplied brackets or sandbags draped over the legs, at least 2 metres from surrounding buildings or structures, which must also be non combustible. If locating on a tower or other part of the church you will need to seek the advice of the church architect/surveyor and may need to obtain a faculty
Within the operational area all combustible and heat vulnerable materials must be removed and all possible ignition sources other than the beacon equipment identified and eliminated
- The manufacturer's instructions for assembly, installation, and operation of the beacon must be followed
- Only propane cylinders as stipulated by the manufacturers must be used. When in use cylinders must be in a stable upright position, properly secured
- The beacon must only be lit and extinguished by competent persons, see (iv) above. Additionally, it must be supervised at all time when lit
- If the beacon is positioned above ground level then no more than 2 persons must be in the vicinity
- Empty cylinders should be treated in the same manner as full ones.

After the event

- Turn off and extinguish the equipment following manufacturer's instructions
- After the event a fire watch must be maintained for a period of at least 60 minutes
- Tidy up and remove refuse and debris, return the LPG cylinders to designated storage area and arrange for collection as soon as possible.

Further advice and guidance is available from our expert team of surveyors.

To find out more call us on **0345 777 3322**.

Dedicated Risk Advice line - **0345 600 7531**

