

# Explosion hazards associated with placing air conditioners too close to LPG cylinders

ESV HAS BEEN ADVISED OF A NUMBER OF RECENT INSTALLATIONS WHERE THE OUTDOOR UNITS OF SPLIT SYSTEM AIR CONDITIONERS HAVE BEEN LOCATED TOO CLOSE TO GAS STORAGE CONTAINERS (LPG BOTTLES) AND GAS REGULATOR EQUIPMENT – RESULTING IN THE NEED TO RELOCATE THE ELECTRICAL EQUIPMENT.

All electrical workers should be aware of the hazards that arise from installing electrical equipment in close proximity to containers such as LPG cylinders or others containing flammable gas or vaporising liquids.

The Liquefied Petroleum Gas industry recently asked ESV to help remind electricians and installers of split system air conditioners in particular of the need to observe the regulations which apply to such situations.

“For some time the LPG industry has been struggling with electricians (and others) positioning the compressor units of split system air conditioners too close to LPG cylinders installed on the exterior walls of premises.

“This results in our previously compliant and safe gas installations being compromised, often to the cost to the customer who we then require to make things safe again by repositioning the compressor unit,” said the industry.

Recently ESV issued a Gas Company Action Request on an LPG company which the industry claimed resulted from an electrician illegally and unsafely installing air conditioners through a caravan park, compromising previously compliant cylinder installations.

“Whilst we acknowledge that we have a part to play in ensuring the safe supply of LPG to our customers, it appears that there is a gap in the knowledge of many electricians and air conditioning installers concerning the “legalities” of placing electrical components near LPG cylinders,” said the industry.

A hazardous environment/explosive situation can be due to the combination of released flammable gas/liquid and the ignition source presented by normal electrical equipment. The consequences can be horrific.

### ESV's advice to installers

These gas cylinders may be installed at domestic premises, caravan parks, restaurants, commercial kitchens, etc.

The Wiring Rules (AS/NZS 3000:2007) requires that adequate clearance must be maintained between electrical equipment (e.g. outdoor unit of a split system air conditioner) and vessels containing flammable gases/liquids.

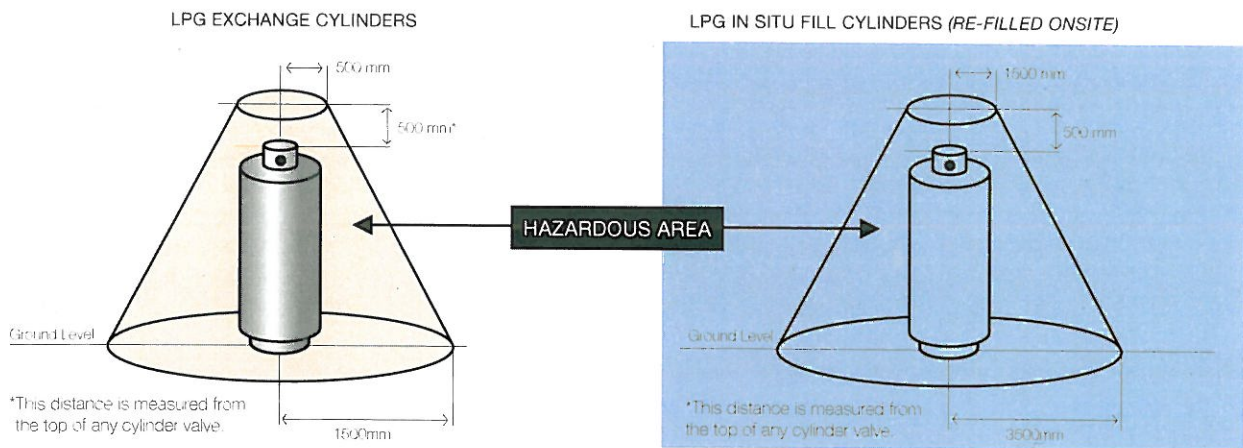
Unlike the situation where a natural gas meter installation is determined by the authority and takes into account safe location – i.e. free of vehicular traffic etc, ventilation and possible ignition source – the sighting of LPG portable cylinders to service in particular a domestic residence is determined in many cases by the installer, a licensed gasfitter.

In all installations whether they be domestic, commercial or industrial, LPG gas cylinders dependent on their application require predetermined locations as described in Gas Installations AS/NZS 5601 – *The Storage and Handling of LP Gas AS/NZS 1596:2008*. See also *Classification of Hazardous Areas AS/NZS 2430.3.4* which classifies the hazard presented by lighter-than-air flammable gases (natural gas) and heavier-than-air flammable gases (LPG) are to be adhered to under all circumstances.

### Prosecution!

The installation of any electrical switching equipment in the exclusion zone around an LPG cylinder installation, as described in the above codes, such as split system air conditioning equipment, would contravene the requirements of these codes and the installer would be liable to prosecution.

Generally the following clearances, for other than large scale gas installation, apply.



Ignition sources must be located outside the shown hazardous area

## Father electrocuted in front of children

FOUR CHILDREN WATCHED AS THEIR FATHER WAS ELECTROCUTED WHILE RETRIEVING A KITE WHICH HAD BECOME ENTANGLED IN POWER LINES IN QUEENSLAND SOME THREE DAYS BEFORE CHRISTMAS.

The cattle farmer had been attending a Christmas party with his family on a neighbouring property at Sarre Station, around 70 km south of Richmond in central northern Queensland.

A group of children had been playing with a kite, which became tangled in power lines, police said.

The farmer, aged in his early 40s, is believed to have used a metal pole to retrieve the kite and suffered an electric shock.

“The people at the property commenced CPR and continued until the Queensland Ambulance Service arrived but he was deceased,” a local police officer told the media.

The officer confirmed the four children – two boys and two girls – had witnessed their father’s death.

A local shopkeeper said the dead man was a long-time resident who was well known in town, having played football for the local team and once worked as a shearer.

A Police Media spokesperson said Queensland Workplace Health and Safety was investigating the death.