

Ignition sources

Recently many gasfitters have called the Board to discuss whether fibre-optic cables or earth electrodes (earthing stakes) cables are considered ignition sources. This has usually come about when an LP gas cylinder supplier has refused to supply LP gas to a site, due to what they consider is an ignition source within the exclusion zone around the cylinders. Within the industry, there are differing views as to whether fibre-optic cables and electrodes are ignition sources.

AS/NZS 5601.1:2013 Gas Installations – General Installations defines an ignition source as:

“A source of energy sufficient to ignite a flammable mixture and includes, but is not limited to, naked flames, exposed incandescent material, electrical welding arcs, and any electrical or mechanical equipment not suitable for use in hazardous locations.”

The definition of an ignition source does not clearly state whether fibre-optic cables and earth electrodes are ignition sources.

Fibre-optic cables carry light signals down the cables. If the fibre optic cable is damaged there is potential that concentrated light could heat up the surrounding area and become an ignition source (similar to that of a magnifying glass in the sun). Guidance provided by a large fibre-optic cable provider in NZ recommends that the External Termination Point (ETP) of fibre-optic cables is kept out of the exclusion zone for ignition sources. The guidance refers to exclusion zones for ignition sources around regulator vents. However, the principle would be the same for the exclusion zone for ignition sources around LP gas cylinders.

Concerning earth electrodes the Electrical standard AS/NZS 3000:2007 (cited in G9) outlines that electrical equipment cannot be installed around the ‘hazardous area’ around LP gas cylinders. The hazardous area outlined in AS/NZS 3000:2007 is the same as the clearances recommended for ignition sources in the informative appendix J5 of 5601.1:2013. This would imply that an electrician can’t install an electrode within this area. However, for an electrode to spark there would be a major fault with the electrical system.

Often gasfitters have tried to convince LP gas suppliers that the site is suitable, as they have issued a gas certificate for the installation. However, gasfitting begins from the outlet of the outlet valve on the LP gas cylinder and not the cylinder itself. Therefore, a CoC and a GSC certify that the installation is safe and compliant to connect to. The certificates do not include the cylinders and they do not state whether the site is appropriate for LP gas cylinders.

The Boards advice is that where it is not clear whether a site is suitable for the LP gas cylinder it is advisable to discuss the placement of the cylinder with the LP gas supplier before a site is chosen. This will help ensure that the LP gas provider is willing to deliver the LP gas cylinder(s).