Industry Standard Update 084

UKLPG CoP 25: 2018
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This Industry Standard Update provides an overview of the key areas of change arising from the amendments made to the UKLPG Code of Practice 25: 2018, LPG Central Storage and Distribution Infrastructure for Multiple Consumers.

Introduction
During June 2018, UKLPG published an amendment to UKLPG CoP 25[1]. This amended version supersedes the previous version, which was published in 1999, and amended in 2008. The previous version has been withdrawn.

The amendments to this standard come into effect immediately.

To allow registered businesses time to carry out internal update training to reflect the technical requirements of the amended standard, Gas Safe Register will inspect to the new requirements from 1 November 2018. However, this should not restrict businesses from applying the specification sooner.

The following is a brief overview of the general requirements of the amended standard, now published as UKLPG CoP 25.

General
The standard provides guidance on the design, installation, operation and maintenance of LPG central storage.

References to legislation and current standards have been updated throughout.

Section 1:
Introduction and scope
The scope of this Code of Practice covers:

- Storage facilities
- Service pipework (including distribution mains)
- Associated equipment up to the entry into consumer premises, or the meter or final stage regulator if located inside the premises.

For the purpose of this Code of Practice:

- Low pressure is defined as maximum operating pressure not exceeding 75mbar, and a design maximum incidental pressure of 150mbar
- Medium pressure is defined as maximum operating pressure exceeding 75mbar but not exceeding 2bar, and a design maximum incidental pressure of 2.7bar.

Section 2:
Development planning
Additional guidance has been added to Clause 2.1 and states that once the location for the bulk vessel installation has been agreed with the site owner/ developer, this should be included in their planning application.

Figure 1 has been included in Clause 2.2.1 to provide guidance on the recommended positioning of utility apparatus in a 2m wide footway.

Clause 2.2.2 provides guidance on ownership and tenancy details. Contractual rights of access for filling/ maintenance of the vessels shall be obtained for easement purposes. If pipework is laid across land which is not dedicated to public use then details of ownership and tenancy of the ground should be obtained for easement purposes.

Details of ownership should be included in the installation record.

Additional bullet points have been added to Clause 2.2.3 to provide additional reference documents.

Where the system/site owner is not the gas supplier, they should be provided with a copy of the as-laid drawing/s. Consideration should be given to keeping a copy of the as-laid drawing on site in a readily accessible location.

Section 3:
Design and installation
Periods of high peak consumption should also be considered to ensure that storage vessels and associated equipment are adequately sized to maintain sufficient vaporisation, and bulk storage pressure no lower than 2.5bar. Where the bulk storage is unable to provide natural vaporisation, the use of a vaporiser should be considered.

Pressure regulators and associated safety devices shall be designed in accordance with BS EN 16129[2] or BS EN 334[3], and must meet the requirements of the Pressure Equipment (Safety) Regulations 2016[4]. The design of the final assembly should consider the requirement to provide a continuous and uninterrupted supply of gas during normal use, and when performing periodic inspection and maintenance.

IGEM/TD/13[5] provides guidance on the design, selection and operation of primary pressure-reduction systems used in distribution systems above 150kg/h capacity. For lower capacities, the principles in design should be considered where practicable, in order to provide minimum levels of safety and continuity of service. These may include a minimum of two independent safety devices such as an Over Protection Shut Off (OPSO) system, and a monitor regulator.

Full Vent Capacity Relief systems shall not be used as a safety device. Isolation valves shall not be permitted in the impulse pipe for the regulator or OPSO.

Where regulator pressure impulse pipes are used either on regulators or OPSO devices, they shall be fitted into the pipework prior to any downstream outlet valve, contrary to the recommendations in IGEM/TD/13, for LPG installations. This can be after the stream discrimination valve (or non-return valve) but before any isolation valve.

OPSO pressure impulse sensing points shall be installed into the pipework before any stream discrimination valves (or non-return valve) in order to protect a secondary standby stream of excessive pressure from failure of the primary stream.

Nuisance shut-off of OPSO devices due to thermal gain where pipework enters a building can be avoided by the fitting of limited-capacity relief devices mainly on intermediate or final-stage regulation. These are not normally required on pipework installed outdoors or below ground.

Figure 2 and Figure 3 have been added to Clause 3.1.4.1 to provide an example of a twin-stream system and an active monitor system.

Clause 3.1.4.2 states that remote-pressure monitoring may be utilised to enhance system reliability further, however this is not considered a safety device in its own right.

For new buried pipework installations operating at a nominal pressure greater than 75mbar, distribution mains and services shall be run a minimum distance of 3,000mm from buildings, except at the point of connection to the premises. For pipework operating at a nominal pressure not greater than 75mbar, the mains shall be run a minimum distance from buildings of 250mm. Services shall be a minimum 250mm from buildings, except at the point of connection to the premises.

For existing buried pipework installations installed before the publication of the 2018 edition of UKLPG Code of Practice 25, where proximity distances do not meet the current guidance, the buried pipework may continue to be operated in

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accordance with their existing inspection and maintenance strategy. Where opportunities arise, such as modifications or repairs, the owner/operator should comply with the current guidance where reasonably practicable.

However, for extensions to existing installations on caravan holiday home (CHH) and residential park home sites (RPH), where a high degree of ventilation between the base slab and the CHH or RPH can be guaranteed either by no skirts, or ventilation in accordance with HSE Research Report RR945, reduced proximity distances may be permitted. In these situations, a documented risk assessment by a competent person must first conclude that the cost of compliance with these requirements is grossly disproportionate to the safety benefit gained. In such circumstances, the proximity distance for pipework operating at a pressure greater than 75mbar may be reduced, but it shall not be less than that required for pipework operating at equal to or less than 75mbar.

Such a risk assessment should include consideration of:

- The type and design of occupied CHH and RPH to be used on site, including site restrictions, permissions and controls
- Inspection regime
- Location of joints, connections and vulnerable pipework
- Pipework design standards
- Ventilation and potential for accumulation of vapours
- Potential ignition sources
- Ground conditions (including anticipated loading, eg, vehicular traffic, and the soil type effect on the ability of LPG to track through it)
- Any other relevant factors as identified by the competent person.

Prior to a water course crossing being undertaken, authorisation shall be obtained from the relevant responsible water authority, and any technical and legal requirements complied with. Crossings may be above or below ground. The most appropriate method should be adopted for the particular circumstances. Above-ground crossings should be made in steel pipe and be adequately supported and protected along the length, while transitions from PE should be made above ground level. Where the pipe is to be self-supporting, it should be sized so that excessive bending stresses are not created.

Wherever the recommended depth of cover in a trench cannot be achieved, a risk assessment shall be carried out to determine whether additional protection is required.

The assessment should include consideration of:

- The location of any other services (by the use of underground service locator or up-to-date underground services drawings)
- The likelihood of damage to the pipework while working on the services
- The likelihood of other services being installed in the future
- The operating pressure of the pipework
- Frequency and ground loading of vehicle traffic, eg, HGVs.

Where additional mechanical protection is required, it may be provided by burying concrete slabs below ground level at approximately 100mm above the pipework.

To alert others to the presence of underground LPG pipework, a yellow plastic indicator tape or equivalent should be laid between 100mm and 300mm above the pipe.

Clause 3.5.3 states that where test points are not suitable for purging then consideration should be given to the installation of additional purge points.

All service connections shall incorporate either a low-pressure or medium-pressure regulator, with safety devices upstream of the meter.

Clause 3.6.2 provides guidance on final-stage regulators. The final-stage regulator should be sited as close as possible to the outlet of the ECV and to the entry point of the premises supplied. Low-pressure regulator assemblies shall incorporate an under-pressure shut off (UPSO) valve. Provided that the inlet pressure is limited to a maximum of 150mbar, an OPSO is not required. For low-pressure installations, final stage regulators may be installed.

All medium-pressure regulator assemblies shall incorporate an UPSO, OPSO and limited-capacity pressure relief. Relief vent pipe tips shall be installed in accordance with Table 3.

Meter boxes and regulators shall be installed in accordance with BS 6400–3[6]. For standpipes, reference shall be made to BS 6891[7] or the manufacturer's instructions.

Meters, regulators or standpipes for mobile homes, park homes, caravans and similar structures should be situated as close as reasonably practicable to the structure, but not any farther than 1m. Where necessary, meters, regulators and standpipes should be protected against vehicular impact.

Section 4: Testing, purging and commissioning

When the service pipework has been installed up to a meter installation or ECV, prior to the installation pipework being connected, the outlet shall be plugged/capped and a warning label displayed.

Section 5: Maintenance

PSSR[8] and DSEAR[9] are referenced in this section.

The person responsible for the installation should keep appropriate records and provide a copy for the user of the pipework.

Appendix B: Pipeline Safety Regulation (PSR) compliance

This Appendix has been included to provide guidance on the Pipeline Safety Regulations.

Summary

As previously stated, this Industry Standard Update is only a brief overview of the information contained in the amended standard. Registered businesses should be aware that they have a responsibility to ensure they are fully apprised of all the requirements of the whole published standard and its practical application.

Bibliography

(1) UKLPG CoP 25 2018 *LPG Storage and Distribution Infrastructure for Multiple Consumers*

(2) BS EN 16129 2013 *Pressure regulators, automatic change-over devices, having a maximum regulated pressure of 4bar, with a maximum capacity of 150kg/h, associated safety devices and adaptors for butane, propane and their mixtures*

(3) BS EN 334 2005 + A1 2009 *Gas pressure regulators for inlet pressures up to 100bar*

(4) Pipeline Safety Regulations 1996 *(PSR)*

(5) IGEM/TD/13 *Pressure regulating installations for Natural Gas, Liquified Petroleum Gas and Liquified Petroleum Gas/Air (Communication 1755).*

(6) BS 6400-3 2007 *Specification for installation, exchange, relocation and removal of gas meters with a maximum capacity not exceeding 6m³/h. Low and medium pressure (3rd family gases)*

(7) BS 6891: 2015 *Specification for the installation and maintenance of low pressure gas installation pipework of up to 35mm (R1¼) on premises*

(8) Pressure System (Safety) Regulations 2000 *(PSSR)*

(9) Dangerous Substances and Explosive Atmosphere Regulations 2002 *(DSEAR).*