

Regulation 5 [ICL/04550] governs the provision of information concerning the vessel and its maintenance history and the indelible marking of the system to provide a permanent record of the relevant manufacturing details. Calor's storage tanks all have permanently welded onto them a metal plate emblazoned with information that enables the tank to be readily identified by its serial number as well as recording when in-service and thorough examinations were carried out. Regulation 6 provides that the installation is carried out safely. Regulation 7 [ICL/04551] requires the user to establish the safe operating limits of the system. Regulation 8 [ICL/04551] requires the user to have a written scheme for periodic examination of the system. Regulation 9 requires examination in accordance with the scheme. By regulation 10 [ICL/04554] the examiner of the system if he considers the system gives rise to imminent danger must report it to the enforcing authority and the user must ensure that the system is not operated until it is rendered safe to use.

Regulation 11 [ICL/04554] requires the user to provide the person who in the course of their work is operating the system, such as Calor's delivery driver, with adequate and suitable instructions both for safe operation and action to be taken in an emergency. Regulation 12 [ICL/04555] requires the user to ensure that the system is properly maintained in good repair so as to prevent danger. Regulation 13 [ICL/04555] requires the employer of the person who modifies or repairs the system to ensure that nothing is done that gives rise to danger or impairs the operation of any of the protective devices. Lastly, Regulation 14 [ICL/04555] places an obligation upon the user to keep proper records concerning the system. This Calor does using its comprehensive storage vessel database.

An LPG system operating at above 0.5 bar, such as that at ICL, is subject to the Regulations and should have required its own written scheme of examination as it fall within the scope of PSSR.

Dangerous Substances and Explosive Atmospheres Regulations 2002 [ICL/04445 – 04572] (DSEAR) make provision for protecting both employees and any other persons who may be affected by the work carried on by the employer where a dangerous substance is or is liable to be present "*at the work place*". Work place is widely defined as "*any premises or part of premises used for or in connection with work*" and includes "*any place within premises to which an employee has access while at work.*" LPG is a dangerous substance. The commercial or industrial site is plainly a workplace for the purpose of these regulations. The principle obligation they place upon the employer is that it should carry out a suitable and sufficient risk assessment of the risks to employees which arise from LPG. Regulation 5 sets out in detail the various matters that need to be considered. The most pertinent are the following:

- the hazardous properties of the substance
- the work processes
- the amount of the substance involved
- the arrangements for the safe handling, storage and transport of the substance
- activities such as maintenance
- the likelihood that an explosive atmosphere will occur

- the likelihood that ignition sources will be present and
- the scale of the anticipated effects of a fire or an explosion.

Where the storage tank infrastructure remains the responsibility of Calor it follows that its risk assessment and risk control measures include ensuring it is in a safe condition and maintaining it to the necessary standard. However safety at the overall site is the responsibility of the site owner and he must ensure it is safe place when used by Calor's delivery driver in connection with his work and a place to which he has access while carrying out his work. The installation is not under Calor's control and the measures that it can take to minimise the risk attaching to the tank infrastructure are limited because its continued safety depends upon the actions or omissions of a third party such as the site owner.

One interpretation of PUWER is that pipework is included in the definition of equipment. Under PUWER the user has to responsibility to ensure that it is properly installed by competent people and undertake (or have undertaken) appropriate inspections.

Calor considers that the above Regulations which are detailed in their requirements were written by the HSE and whilst clear to specialists may not be clear to SMEs and end users.

**58 If yes, what would Calor propose by way of change?**

Whilst UKPLG (formerly LPGA) Codes of Practice do try and interpret the requirements of the legislation in relation to the LPG industry, it would seem to be beneficial for the HSE to issue a separate single ACoP specifically detailing with the requirements for LPG installations at commercial and industrial customers premises. This would 'pull together' in one place the requirements detailed in this raft of legislation in a single user friendly document which would be easily understood and equally, enforceable by the Health and Safety Inspectors.

**59 In Calor's view, what are the advantages and disadvantages of 'factories' being exempt from certain aspects of the Gas Safety (Installations and Use) Regulations 1998 (GSIUR)?**

Whilst factories are exempt from the GSIUR [ICL/04473 – 04500], clause 42 of the accompanying guidance makes it clear that similar requirements do apply at such premises

“Where there are exclusions under these Regulations e.g. at factories, similar gas safety requirements may be applicable under the Health and Safety at Work Act etc 1974 [ICL/04618 – 04691] and related legislation e.g. the Workplace (Health, Safety and Welfare) Regulations 1992 [ICL/04888-04908] and the Provision and Use of Work Equipment Regulations 1998 [ICL/04569 – 04592]. In deciding whether these other, more general duties have been met in relation to installation and use of gas systems/appliances, the relevance of the more specific requirements of these Regulations will need to be considered.”

This places a clear responsibility on operators of factories to achieve a similar standard of safety. Large factories with the appropriate engineering and technical departments would be able to develop suitable equivalent procedures to meet these requirements and achieve the required level of safety, it is unlikely that small factories and particularly SMEs have the resource to interpret the raft of legislation and implement similar safe systems of work. Therefore, on balance Calor considers that it would be significant advantage is GSIUR [ICL/04473 – 04500] was extended to include factories.

This extension would ensure that only suitably qualified CORGI engineers will be responsible for the installation, inspection and maintenance of LPG installations including the pipe work and for such activities involving the gas appliances installed on the factory premises.

By extending GSIUR to factories, such as ICL's factory, the following requirements would also apply:

- a requirement to fit an emergency control valve(s);
- a requirement to provide protective devices (e.g. OPSO/UPS0 where practicable);
- restrictions on the installation of certain LPG appliances in basements;

There is already a duty on the gas supplier, such as Calor to respond to a report of a gas escape and make safe (Regulation 37).

60 **Are there any aspects of the Pipelines Safety Regulations - Design, Construction and Installation of Gas Service Pipes (1996) [ICL/04523 – 04545] which could be applied usefully to non-domestic bulk LPG user sites?**

The Pipelines Safety Regulations - Design, Construction and Installation of Gas Service Pipes are applicable to gas service pipes operating at up to 7 bar gauge which connect to a natural gas distribution main.

The main documents referred to in this ACOP are IGE/TD/4: Gas Services, IGE/TD/3: Distribution Mains and various National Joint Utilities Group (NJUG) publications.

Calor has been aware of these regulations and the referenced guidance documents for a number of years. It has been promoting the safety benefits brought by the comprehensive guidance given in the IGEM Technical Standards through work it has conducted on IGEM technical committees.

Calor has been instrumental in bringing improvements to the LPG industry by representation on IGEM's Transmission and Distribution Committee and TD/3 and TD/4 panels. This work has seen the scope of IGE/TD/4 [ICL/ 04963-05105] extended to include LPG service pipework and provide significant additional expertise to the LPG industry.

Calor continues to promote improvements in working practices and mains and service pipework installation standards through liaison with Advantica, UKLPG and IGEM, specifically by currently revising LPGA Code of Practice No. 22 to include the extended IGE/TD/4 [ICL/ 04963-05105 ].

- 61 **If the GSIUR was extended to 'factories' and/or there was a requirement for all non-domestic bulk LPG user sites to inspected periodically by 'competent persons', what might the implications be?**

We do not understand the question because the GSIUR do not place a requirement for sites to be inspected periodically by a competent person.

### **Safety of Installation and Maintenance**

- 62 **Where Calor undertakes installation, and/or maintenance on behalf of a industrial customer how and by what method does Calor ensure compliance and quality assure the work undertaken?**

There is a legal requirement for any operative undertaking LPG work to be registered with CORGI and to possess a certificate of competence for each work activity they undertake. The required certificates of competence are normally obtained through the National Accredited Certification Scheme (ACS) and must be renewed every five years [ICL14908-14926].

Calor carries out appropriate periodic checks to ensure that its directly employed engineers and approved contractors are CORGI registered and possess the relevant ACS certificates of competence for the LPG work activities they undertake on behalf of Calor. Records of ACS assessments are kept on a database with hard copies maintained for back-up and in order to satisfy the requirements of the CORGI large business audit.

Calor also undertakes periodic quality control and competence assessments on its directly employed engineers and approved contractors. These checks and assessments include the following:

- on job assessments (variety of work activities and competence assessments);
- work in progress quality inspections;
- post completion quality inspections; and
- third party audits.

All findings from the above inspections and assessments are acted upon appropriately (e.g. a deficiency may result in additional training).

Every engineer and contractor is assessed at an appropriate frequency and at least annually. The frequency of audits on an individual engineer or a contractor may be increased if previous inspection highlights a defect in the quality of work or a deficiency in competence. In addition, a customer complaint may trigger a quality check or competence assessment.

**63 What qualifications/training are required? Are the standards required for such qualifications sufficient in Calor's view? What on going education/training is required by Calor? How do they quality assure those engaged by them?**

There is a general legislative requirement through the Health and Safety at Work etc Act for anyone conducting work to be competent. **[ICL/04618 – 04691]**

In the UK gas industry this requirement is extended such that any person conducting gas work within the scope of GSIUR has to be CORGI registered. In order to become registered CORGI require that each operative must possess a 'current' certificate of competence for each category of gas work they undertake. The individual certificates of competence are part of the National Accredited Certification Scheme (ACS) and must be renewed every 5 years.

The certificates of competence required to work on LPG pipework and related equipment are part of the National Accredited Certification Scheme, and include the following:

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|-----------|---|
| • VESLP 1 | Gas Storage Vessel - Single               |
| • VESLP 2 | Gas Storage Vessel - Multiple             |
| • TPCP 1  | Testing and Purging Installation Pipework |
| • EFJLP 1 | Polyethylene Electro Fusion Jointing.     |

Calor does not believe these qualifications are sufficient for certain installation practices including:

- Installing LPG mains and service pipework
- Liquid phase installations
- Dealing with LPG emergencies
- Maintenance of LPG vessels, cylinders and equipment
- Delivery and installation of bulk vessels.

