



An Coimisiún
um Rialáil Fóntais
**Commission for
Regulation of Utilities**

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Operator Handbook

Part of the Class 2 LPG Safety Licence

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Introduction

1. The purpose of this handbook is to set out the safety obligations of Class 2 LPG safety licence holders.
2. The CRU has requested the Minister for the Environment, Climate and Communications to amend primary legislation to bring all LPG distribution networks within the definition of an LPG undertaking.
3. If and when the primary legislation has been amended, it will be an offence for a person to make available LPG by way of a piped LPG distribution network for use by two or more individual domestic final customers unless that person has been granted a Class 2 LPG safety licence. A person will be required to hold a Class 2 LPG safety licence if they operate 10 or less piped LPG distribution networks.
4. A Class I LPG safety licence and safety case will be required where a person imports LPG or purchases LPG directly from a refinery within the State and is operating more than 10 piped LPG distribution networks for use by two or more individual domestic final customers.

Furthermore, the CRU intends to extend its powers conferred on it by Section 9H of the Electricity Regulation Act 1999, as amended, to make a new regulation placing an obligation on LPG suppliers of bulk tanks supplying LPG to distribution networks with domestic customers, to be responsible for providing emergency response to Class 2 LPG safety licence holders.

5. Class 2 LPG safety licence holders will be required to comply with this handbook as will be specified in their Class 2 LPG safety licence, in addition to relevant safety standards and subsequent revisions. This handbook details the minimum requirements for the design, construction, commissioning, operation, maintenance and alteration of polyethylene or metallic mains, for the distribution of gas at pressures up to and including 16 bar.
6. If and when the definition of an LPG undertaking has been amended, the following offence and penalties would also apply:

It is an offence for a person to make available LPG via a piped LPG distribution network without an LPG safety licence from the CRU¹.

The following penalties are set out in section 9JE of the Electricity Regulation Act 1999, as amended,

“For the purposes of ensuring LPG safety, a person shall not make available LPG via a piped LPG distribution network for use by individual domestic final customers unless a LPG safety licence is in force in respect to the activity. A person who contravenes subsection (1) commits an offence and is liable

(a) on summary conviction to a class A fine, or

(b) on conviction on indictment to a fine not exceeding €500,000.”

There will be a transitional period so all affected parties have an appropriate amount of time to apply for a Licence.

¹ 9JF.—(1) Where a LPG undertaking submits an application for a safety licence it shall be accompanied by such fee, if any, as the Commission may determine to be appropriate, having regard to the nature of the designated LPG activity to which the safety licence relates.

Public/ Customer Impact Statement

It is important that all operators of piped LPG distribution networks are regulated with respect to safety so that the general public, and end customers, are protected from the safety risks associated with piped LPG distribution networks.

At present, the legislation provides for operators who import LPG or purchase it directly from a refinery within the State and supply to it to individual domestic and commercial customers via a piped LPG distribution network, to hold an LPG safety licence. The legislation does not, however, cover operators of LPG distribution networks who purchase LPG from other sources.

In order to regulate these operators with respect to safety, the CRU has requested the Minister for the Department of Environment, Climate and Communications to amend the existing legislation to include a new Class 2 LPG safety licence covering these operators. In this way, all customers supplied with LPG via a distribution network will be protected with respect to safety, regardless of where their network operator sources LPG.

The CRU also intends to exercise powers conferred on it to make a new regulation placing an obligation on LPG suppliers of bulk tanks and supplying LPG to distribution networks with domestic customers to be responsible for providing emergency response to Class 2 LPG safety licence holders. In this way, all customers supplied with LPG via a distribution network will be provided with emergency response, regardless of where their network operator sources LPG.

This handbook sets out safety requirements for these operators of distribution networks who purchase LPG from sources other than importing LPG or purchasing it directly from a refinery within the State. This handbook must be complied with in accordance with a Class 2 LPG safety licence granted to these operators by the CRU.

Glossary

For the purposes of this Operator Handbook the following definitions shall apply:

Cathodic Protection	means of inhibiting corrosion of buried metal structures by ensuring that they are permanently cathodic, i.e. electrically negative, to the soil around
Commissioning	activities required to purge the pipework and equipment of air and fill with gas to take them into service
Competent Person	According to the Safety, Health and Welfare at Work Act 2005, a person is deemed to be a competent person where, having regard to the task he or she is required to perform and taking account of the size or hazards (or both of them) of the undertaking or establishment in which he or she undertakes work, the person possesses sufficient training, experience and knowledge appropriate to the nature of the work to be undertaken.
Decommissioning	activities required to purge the pipework and equipment of gas to take them out of service
DN	alphanumeric designation of size for components of a pipework system, which is used for reference purposes. It comprises the letters DN followed by a dimensionless whole number, which is in directly related to the physical size, in millimetres, of the bore or outside diameter of the end connections ²
LPG Undertaking (draft legislative definition)	LPG undertaking' means any person who imports LPG or purchases LPG directly from a refinery within the State and makes LPG available to individual domestic or commercial customers by way of LPG cylinder, bulk tank or via a piped LPG distribution network, or, makes LPG available to individual domestic or commercial customers by way of LPG cylinder, bulk tank or via a piped LPG distribution network
Maximum Operating Pressure (MOP)	maximum pressure at which a system can be operated continuously under normal conditions NOTE Normal conditions are – no fault in any device
Operating Pressure	pressure within a system under normal operating conditions
Operator (Pipeline Operator)	private or public organisation which designs, constructs and/or operates and maintains the gas supply system
Purging	procedure for safely removing air or inert gas from pipework and replacing it with combustible gas, or the reverse

² NOTE 1 The number following the letters DN does not represent a measurable value and should not be used for calculation purposes except where specified.

NOTE 2 Where DN designation is used, any relationship between DN and component dimensions are given, e.g. DN/OD or DN>ID.

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1. Facilities, Systems and Standards

The Class 2 LPG safety licence holder shall make available LPG by way of a piped LPG distribution network subject to and in accordance with all relevant safety standards and at a minimum the standards, and subsequent revisions, listed below:

1. I.S. 329:2015 Gas Distribution Mains
2. I.S. EN 12007-5:2014-Gas Infrastructure – Pipelines for maximum operating pressure up to and including 16 bar – Part 1: General function requirements
3. I.S. EN 12186:2014 Gas infrastructure – gas pressure regulations stations for transmission and distribution – functional requirements
4. IGEM/TD/13 – Pressure regulations installations for Natural Gas, LPG and Liquefied Petroleum Gas/Air
5. IGEM/TD/13 Edition 2 - Pressure regulating installations for natural gas, Liquefied Petroleum Gas (LPG) and LPG/air
6. S.R. 12007-5:2016 Guidance on the application of I.S. EN 12007-5:2014, gas infrastructure - pipelines for maximum operating pressure up to and including 16 bar

These standards shall cover, without limitation, the engineering of pipelines and associated equipment and the technical standards to be adopted for their design, construction, operation, monitoring and maintenance, including standards relating to the physical durability of the piped LPG distribution network (including its ability to withstand internal and external pressures, shocks and damage, whether natural or man-made).

2. Design, Commissioning and Construction

The Class 2 LPG safety licence holder shall design, commission and construct the LPG distribution network in accordance with the standards listed in section 1 of this handbook.

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3. Monitoring

The Licensee shall ensure that, at a minimum, monitoring is carried out in line with the standards referenced in Section 1 of this document and the requirements as set out in I.S. 329:2015 Gas Distribution Mains.

3.1 System soundness surveys

A competent person shall undertake systematic and periodic leak surveys using a suitable method. The frequency of these surveys shall be determined by considering at least the following factors but shall be carried out at no less than every 10 years:

- The characteristics and age of the relevant part of the gas supply system
- The type of gas distributed
- The density of population
- The history of leakage of the gas supply system
- The nature of the ground
- Influences related to weather
- Operating pressure
- Materials
- History of damage

The Licensee shall ensure:

- the safety of the gas distribution mains network,
- the system pressure is maintained by suitable means,
- an adequate odourisation level of the gas
- works are carried out by competent persons.

The Licensee shall ensure that the competent person has a procedure in place for classifying leaks in place to rank the indications in severity for appropriate priority of repair actions and this shall be

followed. The procedure shall include a maximum time limit for the repair of different classes of leaks.

3.2 Cathodic protection surveys

Monitoring of the effective operation of any cathodic protection system shall be carried out. The Licensee shall have a procedure for rectifying defects. Frequency of surveys shall be determined by the system characteristics such as materials and age.

3.3 Exposed pipe inspections

Where mains and services are exposed, the condition of the pipe shall be recorded and a visual inspection shall be carried out. Where there is evidence of corrosion of ferrous pipes, ultrasonic inspection of steel pipes shall be conducted to confirm the wall thickness and condition of the pipe where it is exposed.

3.4 Meter installations

Meter installations and enclosures shall be inspected regularly (e.g. when reading the meter) and at least annually for signs of damage, corrosion and general wear and tear. There shall be a facility for the meter reader to be able to record and report defects.

4. Maintenance

The Licensee shall ensure that, at a minimum, maintenance is carried out in line with the standards referenced in Section 1 of this document and the requirements as set out in I.S. 329:2015 Gas Distribution Mains.

4.2 Odourisation

Gas supplied to end users shall possess a distinctive odour.

Where gas is to possess a distinctive odour its presence in the atmosphere shall be readily detectable at all gas concentrations of one fifth of the lower explosive limit and above.

4.3 Planned maintenance

In order to preserve the distribution network and to ensure a safe and adequate supply, a programme of maintenance works shall be planned and implemented. A competent person shall undertake systematic and periodic leak surveys using a suitable method.

The frequency of these surveys shall be determined by considering at least the following factors and shall be carried out at a period of no less than every 10 years:

- the characteristics and age of the relevant part(s) of the gas supply system,
- the type of gas distributed,
- the density of population,
- the history of leakage of the gas supply system,
- the nature of the ground,
- influences related to weather.

4.3.1 Steel Piping

Due to an increased risk of corrosion, steel mains and services shall be soundness tested at least every two years. When found to be leaking, the piping shall be replaced with PE piping as where corrosion failure has occurred, further failures are imminent.

4.4 Unplanned maintenance

In order to ensure safety and continuity of operation, the Licensee shall have a repair and maintenance response service provided by a competent person.

5. Records

The Licensee shall ensure that, at a minimum, records are maintained and available in line with the standards referenced in Section 1 of this document and the requirements as set out in I.S. 329:2015 Gas Distribution Mains.

5.1 General

The Licensee shall establish a record system for the distribution network and keep it up-to-date and accessible throughout its period of operation. The records shall comprise, but not be limited to, the following information:

- Diameter (Diameter Nominal (DN));
- Nominal operating pressure;
- Material type;
- Location;
- Depth of cover;
- Welded steel joint records as detailed in I.S. 329;
- Testing data as detailed in I.S. 329;
- Design records in accordance with I.S. 329;
- Connections with other mains;
- Cathodic protection data as detailed in I.S. 329
- Valves and pressure regulating stations;
- Rights of way or access details;
- Type of gas distributed.

The records shall be sufficiently accurate to ensure that pipe locations and associated plant can be identified.

5.2 Record systems

Records may be in hard copy or electronic.

5.3 Records management

Records that are essential for the continued operation and maintenance of the distribution network shall be clearly identified

5.4 Availability of records

The Licensee shall submit an up-to-date map/drawing of the Licensee's piped LPG distribution network to the CRU at the time of application for a Class 2 LPG distribution network and as specified by the CRU from time to time.

Adequate provision shall be made to ensure that distribution network information is available to emergency personnel at all times – this information shall be provided to the emergency response provider (LPG supplier) in the form of a map/drawing as described above and as set out in Section 6.

Necessary data to locate plant shall be made available to interested public utilities, local authorities and the CRU when requested.

5.5 Emergency record system

The Licensee shall establish a system for recording incidents.

The record shall be accessible to the CRU. The following information shall be recorded as a minimum:

- the type of incident;
- the date and place where the incident occurred;
- the effect of the incident; and
- the measures taken to deal with the incident and restore safe conditions.

5.6 Emergency plan or intervention plan

The Licensee shall establish, test and update internal emergency intervention plans to deal with incidents that might arise in distributing gas. The plans shall provide the following information:

- parties responsible for setting intervention procedures in motion and the parties responsible for taking charge of, and co-ordinating site actions;
- the availability of competent persons and equipment for intervention according to the nature and scale of the incident and the type of gas distributed; and
- the availability of mapping data on different scales where necessary.

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6. Emergency Response

The CRU intends to exercise powers conferred on it by Section 9H of the Electricity Regulation Act 1999, as amended, to make a new regulation placing an obligation on LPG suppliers of bulk tanks and supplying LPG to distribution networks with two or more domestic customers to be responsible for providing emergency response to Class 2 LPG safety licence holders.

During the provision of emergency response, where the LPG supplier identifies a leak of LPG at the bulk tank or on the LPG distribution network, the LPG supplier (through new regulations) will be responsible for isolating the LPG supply and depressurising the LPG network as appropriate.

When the regulation has come into force the Licensee will be responsible for:

- providing distribution network information upon request to the LPG supplier in the form of a map/drawing to proactively ensure access for emergency response
- taking all reasonable steps to cause the supply of gas to be shut off including immediately giving notice of the escape or smell to the LPG supplier;
- advertising the relevant LPG supplier's national LPG emergency number;
- advising customers on the actions to be taken in the event of a suspected LPG escape;
- ensuring no person shall cause or permit the supply of LPG to be re-opened until all necessary steps have been taken to prevent a recurrence of a gas escape
- ensuring that any required remedial works are carried out by a competent person in compliance with standards listed in Section 1, and
- ensuring that gas is readmitted to the LPG network by a competent person in compliance with standards listed in Section 1 and obtaining a relevant certification by a Registered Gas Installer (RGI) following isolation and/or depressurisation by the LPG supplier.

7. Meter Replacement

Consumer meters and ancillary components shall be replaced when determined necessary by a competent person and after a period not exceeding 20 years³ from date of installation/commissioning.

A visual safety inspection shall always be carried out when reading the meter and any defects shall be remedied as deemed necessary.

³ Previous revision Code of Practice 25– LPG Central Storage and Distribution Systems for Multiple Consumers (1999).

8. Promotion and Public Awareness

The Licensee shall promote LPG safety to raise customer and public awareness of the potential dangers of LPG. This will include for example:

- Advertising the relevant LPG supplier's national LPG emergency number;
- Advising customers on the actions to be taken in the event of a suspected LPG escape;
- Distributing LPG safety information, as provided by the relevant LPG supplier, to customers;
- Protecting underground LPG assets or services from the activities of third parties; and;
- Issuing advice on safe working in the vicinity of underground LPG equipment.

9. Incidents

If and when the definition of an LPG undertaking has been amended as set out in the Glossary, the Licensee shall have the following obligations:

- The Licensee must report LPG incidents⁴ to the CRU as soon as practicable in writing. On receipt of this incident notification, the CRU may request further detail of the incident.
- The Licensee may, on a voluntary basis, at any time submit a written report to the CRU in relation to any incident or series of incidents involving LPG (and which is not an LPG incident in respect of which it is an LPG undertaking concerned) where, in the opinion of the LPG undertaking, it is desirable that such a report be submitted to the CRU.
- A person shall not alter, suppress or destroy any documents, records or materials (including documents stored in non-legible form), items or evidence that the person has been required to produce or may reasonably be expected to be required to produce by a gas safety officer in connection with the investigation of an LPG incident.

Each of the following is a class of event or occurrence which is an LPG incident⁵:

- the death of any person,
- injury to any person which requires medical attention to be given to such person in hospital other than as an outpatient, or
- loss or damage to any building, land or other property, where in the opinion of the LPG undertaking concerned the aggregate value of such loss or damage is in excess of €6,500,

resulting from the use, misuse, abuse, leakage, combustion or explosion of LPG.

⁴ As set out in SI No. 78/2014 - Liquefied Petroleum Gas Safety (Liquefied Petroleum Gas Incident Reporting and Investigation) Regulations 2014

⁵ As set out in SI 77/2014 - Liquefied Petroleum Gas Safety (Liquefied Petroleum Gas Incident) Regulations 2014

10. Decommissioning

The Licensee shall ensure that, at a minimum, decommissioning is carried out in line with the standards referenced in Section 1 and the requirements set out below, Irish standard I.S. 329 Gas Distribution Mains

The Licensee shall give no less than three months prior notification to the CRU of proposed disposal of its piped LPG distribution network for acceptance by the CRU as specified in Condition 2 of the Class 2 LPG safety licence.

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