



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

## **Safety Regulation of the Liquefied Petroleum Gas Industry in Ireland**

DOCUMENT TYPE:	<b>Policy Paper</b>
REFERENCE:	<b>CER/09/082</b>
DATE PUBLISHED:	21 <sup>st</sup> May 2009
RESPONSES TO:	Eamonn Murtagh

*The Commission for Energy Regulation,  
The Exchange,  
Belgard Square North,  
Tallaght,  
Dublin 24.*

[www.cer.ie](http://www.cer.ie)

Under sections 12 and 13 of the *Energy (Miscellaneous Provisions) Act 2006*<sup>1</sup>, the Commission has the responsibility to regulate the activities of natural gas undertakings and natural gas installers with respect to safety. To this end the Commission has set out its approach to the regulation of natural gas undertakings and natural gas installers in the decision papers, “*A Natural Gas Safety Regulatory Framework for Ireland*” (ref. CER/07/172) and “*Vision for the Regulation of Gas Installers with Respect to Safety*” (ref. CER/07/225). Sections 11, 12 and 13 of the 2006 Act were commenced by the Minister<sup>2</sup> on March 11<sup>th</sup>, 2008.

Section 14 of the 2006 Act provides for the Commission’s natural gas safety responsibilities to be extended to cover liquefied petroleum gas (LPG) upon commencement. This section of the 2006 Act has not yet been commenced by the Minister.

In anticipation of the extension of the Commission’s gas safety responsibilities to cover LPG, the Commission published a consultation paper on the issue in July 30<sup>th</sup> 2008. This consultation paper presented high level proposal for the extension of the Commission’s responsibilities to only those areas of the LPG industry where it is considered necessary and appropriate. The consultation period ended on September 12<sup>th</sup> 2008.

The Commission received two responses to the consultation paper which were supportive of the Commission’s high level proposals. These are published alongside this paper. Over the last number of months, the Commission has also engaged directly in discussions with the Department of Communications, Energy and Natural Resources, the Health & Safety Authority and the Irish LPG Association on the proposals. This Policy Paper takes cognisance of the consultation responses and the discussions with the above parties and formally sets out the Commission’s policy on the extension of the Natural Gas Safety Regulatory Framework to include the LPG sector and steps necessary to bring this about.

### Target Audience:

This policy paper is aimed at the LPG and natural gas industries and the general public.

---

<sup>1</sup> Sections 12 and 13 of the 2006 Act amend the Electricity Regulation Act 1999 (the ‘1999 Act’) by inserting new provisions providing for the natural gas safety regime.

<sup>2</sup> Minister for Communications, Energy and Natural Resources

## **Related Documents:**

- *A Natural Gas Safety Regulatory Framework for Ireland (ref. CER/07/172) – 24<sup>th</sup> October, 2007.*
- *Vision for the Regulation of Gas Installers with Respect to Safety (ref. CER/07/225) – 18<sup>th</sup> December, 2007.*
- *CER – HSA Memorandum of Understanding (ref. CER/08/104) – 25<sup>th</sup> June, 2008*
- *Criteria Document for the Regulation of Gas Installers with Respect to Safety (ref. CER/08/130) - 25th July 2008*
- *Safety Regulation of the Liquefied Petroleum Gas Industry in Ireland - Consultation Paper (ref. CER/08/141) - 31st July 2008*
- *Regulation of Gas Installers with Respect to Safety, Definition for the scope of Gas Works - Consultation Paper (ref. CER/08/142) - 31st July 2008*
- *The Commission for Energy Regulation appoints the RGII as the Gas Safety Supervisory Body – 10<sup>th</sup> November 2008*
- *Regulation of Gas Installers with Respect to Safety, Definition for the Scope of Gas Works – Draft Decision Paper – (ref.CER/09/032) - 20<sup>th</sup> February 2009*

## Executive Summary

Under Sections 12 and 13 of the *Energy (Miscellaneous Provisions) Act 2006* (the ‘2006 Act’)<sup>3</sup>, the Commission for Energy Regulation (the ‘Commission’) has the responsibility to regulate the activities of natural gas undertakings and natural gas installers with respect to safety. To this end, the Commission published its decision paper “*A Natural Gas Safety Regulatory Framework for Ireland*” (ref. CER/07/172) in October 2007, which sets out the Commission’s approach to the regulation of natural gas undertakings. In December 2007, the Commission published the decision paper “*Vision for the Regulation of Gas Installers with Respect to Safety*” (ref. CER/07/225) which sets out the Commission’s high level approach to the regulation of natural gas installers with respect to safety. Sections 11, 12 and 13 of the 2006 Act were commenced by the Minister<sup>4</sup> on March 11<sup>th</sup>, 2008.

Section 14 of the 2006 Act allows for the extension of the Commission’s natural gas safety responsibilities to cover liquefied petroleum gas (LPG). This section of the 2006 Act has not been commenced as of yet by the Minister. The Commission considered it necessary to consult on the implications of any decision to commence Section 14 of the 2006 Act in order to determine how the Commission’s safety responsibilities should be extended and to ensure that the scope of these safety regulatory functions with respect to the LPG industry are appropriate.

The Commission’s view is that any new safety regulatory requirements for the LPG industry should result in practicable benefits to society in general but should not be unduly onerous. The Commission has also stated that it seeks to ensure that its interface with other enforcement agencies, notably the Health and Safety Authority (the ‘HSA’), is robust and that there is a clear demarcation of the areas of safety responsibility of these parties wherever possible. Therefore the commencement of the 2006 Act should avoid overlapping enforcement responsibilities and should simply seek to address any enforcement gaps which are not currently provided for in legislation.

In order to progress work in this area, the Commission engaged with the Irish LPG Association (the ‘ILPGA’) and the HSA to discuss and gather information on safety regulation of the LPG industry. The Commission and the HSA have signed a Memorandum of Understanding (MoU) whereby both parties have agreed to consult and communicate with each other on issues relating to the future safety regulation of the LPG sector.

---

<sup>3</sup> Sections 12 and 13 of the 2006 Act amend the Electricity Regulation Act 1999 (the ‘1999 Act’) by inserting new provisions providing for the natural gas safety regime.

<sup>4</sup> Minister for Communications, Energy and Natural Resources.

Following the publication of the consultation paper “Safety Regulation of the Liquefied Petroleum Gas Industry in Ireland” (ref CER/08/141) on July 30<sup>th</sup> 2008, the full consideration of the consultation responses, responses received by the Commission by individual LPG installers and further discussion with the Department of Communications, Energy and Natural Resources (the ‘Department’), the HSA and the ILPGA on the proposals, the Commission is now publishing this Policy Paper which formally sets out the Commission’s policy on the extension of the Natural Gas Safety Regulatory Framework to include the LPG sector and steps necessary to bring this about.

This Policy Paper identifies that although the vast majority of the LPG supply chain is adequately addressed from a safety perspective through existing legislation and regulatory oversight, there are a number of gaps that need to be addressed:

- i) LPG installers and LPG installations with respect to domestic, commercial and industrial premises<sup>5</sup>;
- ii) LPG distribution networks with respect to underground pipe systems (but not the central LPG storage tank as this aspect is covered under Dangerous Substances (Storage of Liquefied Petroleum Gas) Regulations 1990;
- iii) LPG appliance related incident reporting in a domestic setting; and
- iv) the need for statutory responsibilities to be placed on undertakings to promote the safety of LPG customers and conduct LPG safety campaigns with respect to the safe utilisation of LPG is also important.

In order to address these gaps, the Commission advises the Minister that:

1. The Minister does not commence Section 14 of the 2006 Act in its present form;
2. Further primary legislation is enacted which addresses the 4 identified gaps, namely:
  - i) LPG Installers and LPG Installations
  - ii) LPG distribution networks;
  - iii) Reporting of LPG appliance related incidents in a domestic setting; and
  - iv) Statutory responsibility to be placed on undertakings to promote the safety of LPG customers and conduct LPG safety campaigns.
3. The primary legislation is developed in 2 distinct phases, in order of priority:
  - i) Phase 1 legislation to address the “LPG installers gap” by extending the existing regulation of natural gas installer infrastructure to include LPG installers. Greater priority is attached to this legislation given that the LPG installers gap represents a higher safety risk.

---

<sup>5</sup> The Commission notes that with respect to LPG installations in commercial and industrial premises the *Safety, Health and Welfare at Work Act 2005* and regulations made under that Act are relevant here. When the Commission notes the safety regulation of LPG installers with respect to commercial and industrial premises as a ‘gap’, it simply is referring to the fact that LPG installers are not subject to explicit safety regulation equivalent to natural gas installers.

- ii) Phase 2 legislation to address the remaining gaps as a medium term priority. This legislation would provide for the safety regulation of LPG Distribution Networks, LPG appliance related incident reporting in a domestic setting and LPG promotion by the Commission. Work on developing this legislation would be commenced by the Department after the Commission has publicly consulted upon the most appropriate framework for such a regulatory system.

The Department have expressed their agreement with the Commission's proposals and have commenced work on the Phase 1 primary legislation. It is the intention of the Department that this legislation will be in place before the end of the year, with a commencement order provision attached, to enable the Commission to extend the natural gas installer infrastructure to the LPG installers after a suitable transition period. The Commission will continue to work closely with the Department in this regard.

With respect to developing the Phase 2 legislation, the Commission intends to publish a consultation paper before the end of the year on the appropriate options available for the safety regulation of LPG Distribution Networks, LPG appliance related incident reporting in a domestic setting and LPG promotion by the Commission. The outcome of this consultation process will subsequently feed into the Department's process for developing the necessary legislation with the expressed intention of minimising unnecessary regulatory overlap and achieving better safety outcomes. A timeline for the delivery of this legislation will also be outlined at that time.

## Table of Contents

### Executive Summary

<b>1.0 Introduction .....</b>	<b>1</b>
1.1 <i>The Commission for Energy Regulation .....</i>	<i>1</i>
1.2 <i>Purpose of this paper.....</i>	<i>1</i>
1.3 <i>Background Information.....</i>	<i>1</i>
1.4 <i>Structure of this paper .....</i>	<i>4</i>
<b>2.0 The LPG Industry in Ireland .....</b>	<b>5</b>
2.1 <i>Introduction .....</i>	<i>5</i>
2.2 <i>The LPG Supply Chain .....</i>	<i>5</i>
2.3 <i>The LPG Market .....</i>	<i>11</i>
<b>3.0 Consideration of Existing Legislation and Standards .....</b>	<b>13</b>
3.1 <i>Overview.....</i>	<i>13</i>
3.2 <i>Gap and Overlap Analysis by Areas of Operation .....</i>	<i>15</i>
3.3 <i>Discussion on Identified Overlaps &amp; Gaps.....</i>	<i>27</i>
<b>4.0 Conclusions .....</b>	<b>32</b>
4.1 <i>Summary of Conclusions.....</i>	<i>32</i>
<b>5.0 Proposals.....</b>	<b>34</b>
5.1 <i>Summary of Proposals.....</i>	<i>34</i>
5.2 <i>Next Steps .....</i>	<i>35</i>
<b>Appendix A – Glossary of Terms.....</b>	<b>36</b>

## 1.0 Introduction

### 1.1 *The Commission for Energy Regulation*

The Commission for Energy Regulation (the ‘Commission’) is the independent body responsible for overseeing the regulation of Ireland's electricity and gas sectors. The Commission was initially established and granted regulatory powers over the electricity market under the *Electricity Regulation Act, 1999*. The enactment of the *Gas (Interim) (Regulation) Act, 2002* expanded the Commission's jurisdiction to include regulation of the natural gas market, while the *Energy (Miscellaneous Provisions) Act 2006*, granted the Commission additional powers in relation to gas and electricity safety. The *Electricity Regulation Amendment (SEM) Act 2007* outlined the Commission's functions in relation to the Single Electricity Market (SEM) for the island of Ireland. This market is regulated by the Commission and the Northern Ireland Authority for Utility Regulation (NIAUR). The Commission is working to ensure that consumers benefit from regulation and the introduction of competition in the energy sector.

### 1.2 *Purpose of this paper*

The purpose of this paper is to present the views of the Commission with regard to the extension of the Natural Gas Safety Regulatory Framework to include liquefied petroleum gas.

### 1.3 *Background Information*

Under the provisions of the *Energy (Miscellaneous Provisions) Act 2006* (the ‘2006 Act’), the Commission has the responsibility to regulate the activities of natural gas undertakings and natural gas installers with respect to safety. The Commission published its decision paper “*A Natural Gas Safety Regulatory Framework for Ireland*” (ref. CER/07/172) in October 2007, which sets out the Commission's approach to the regulation of natural gas undertakings which includes gas storage, liquefied natural gas (LNG), transmission, distribution and shipper and supplier businesses operating within Ireland. In December 2007, the Commission also published its decision paper “*Vision for the Regulation of Gas Installers with Respect to Safety*” (ref. CER/07/225), which sets out the Commission's high level approach to the regulation of natural gas installers with respect to safety. Sections 11, 12 and 13 of the 2006 Act were commenced by the Minister<sup>6</sup> on March 11<sup>th</sup>, 2008.

---

<sup>6</sup> Minister for Communications, Energy and Natural Resources



Section 14 of the 2006 Act enables the Commission's natural gas safety responsibilities to be extended to cover liquefied petroleum gas (LPG) upon commencement. This section of the 2006 Act has not yet been commenced by the Minister, who is entitled under the 2006 Act to commence the provision on such day as he may appoint. The provisions of this section are set out in the box below:

*14.—The (Electricity Regulation) Act of 1999 is amended by the insertion after section 9J (inserted by section 13) of the following section:*

*9K.— A reference in —*

*(a) sections 9F to 9J of this Act,*

*(b) paragraphs (ea) to (ec) of section 9(1), and*

*(c) subsections (1G) and (1H) of section 9,*

*to natural gas shall be construed and have effect as if it included a reference to liquefied petroleum gas"*

The implications of amending the 1999 Act in this way are as follows:

1. The Commission would have the function to:
  - regulate the activities of LPG undertakings and LPG installers with respect to safety;
  - consult with the National Standards Authority of Ireland regarding standards and specifications relating to LPG safety; and
  - promote the safety of LPG customers and the public generally as respects the supply, storage, transmission, distribution and use of LPG, excluding such activities carried out at upstream pipelines or facilities except where such pipeline or facility is engaged in the storage of LPG.
2. The Commission would have to establish and implement an LPG safety regulatory framework with associated procedures and would have to make reports to the Minister on:
  - the inspection and testing of all LPG transmission and distribution pipelines, LPG storage and LPG facilities;
  - the regulation of LPG installers;
  - the investigation of complaints about the competence of LPG installers;
  - the investigation of LPG incidents; and
  - any other relevant LPG safety matter.
3. The Commission would be required to have "*procedures for the investigation of any incidents involving LPG which in the opinion of the Commission warrant such investigation*".

4. The Commission would have powers to:
  - direct LPG undertakings to advise and inform their customers and the public on:
    - the safest way to use LPG and to operate and maintain LPG fittings,
    - detecting and reporting LPG leaks and faults in LPG fittings;
  - make regulations concerning the safety of LPG gas fittings<sup>7</sup>;
  - appoint gas safety officers with rights of entry and the ability to act or direct, with respect to LPG pipelines, LPG network installations and LPG fittings.
5. LPG transmission or distribution operators<sup>8</sup> would be able to appoint gas emergency officers with rights of entry and other powers with respect to LPG pipelines or fittings.

Given the above, the Commission considered it necessary to consult on the implications of any decision by the Minister to commence Section 14 of the 2006 Act in order to determine how the Commission's safety responsibilities should be extended and to ensure that the scope of these safety regulatory functions with respect to the LPG industry is appropriate. The Commission published the publication consultation paper "Safety Regulation of the Liquefied Petroleum Gas Industry in Ireland" (ref CER/08/141) on July 30<sup>th</sup> 2008. In that paper the Commission expressed its view is that any new safety regulatory requirements for the LPG industry should result in practicable benefits to society in general but should not be unduly onerous. The Commission also stated that it sought to ensure that its interface with other enforcement agencies, notably the Health and Safety Authority (HSA), is robust and that there is a clear demarcation of the areas of safety responsibility of these parties. Finally the Commission stated that the commencement of Section 14 of the 2006 Act should avoid overlapping enforcement responsibilities and should simply seek to address any enforcement gaps which are not provided for in legislation currently in force.

Following the full consideration of the consultation responses and further discussion with the Department, the HSA and the ILPGA on the proposals, the Commission is now publishing this Policy Paper which formally sets out the Commission's policy on the extension of the Natural Gas Safety Regulatory Framework to include the LPG sector and steps necessary to bring this about.

---

<sup>7</sup> This would provide restrictions on who may carry out LPG 'gas works' that is works on 'LPG gas fittings'.

<sup>8</sup> There are no LPG transmission operators as LPG is conveyed by sea and road, however, there are a number of LPG distribution networks in Ireland.

## ***1.4 Structure of this paper***

This paper is structured as follows:

- Section 2:** Describes the LPG industry in Ireland, thereby providing the necessary context to the policy paper.
- Section 3:** Provides the Commission's analysis of existing legislation and standards applicable to the LPG industry, with specific reference to the identification of safety enforcement gaps which are not addressed within the existing legislative framework and the overlaps in enforcement responsibilities as a result of the full commencement of Section 14 of the 2006 Act.
- Section 4:** Outlines a summary of the conclusions formed by the Commission following the analysis presented in Section 3.
- Section 5:** Presents the Commission's proposals with respect to the safety regulation of the LPG industry.

## **2.0 The LPG Industry in Ireland**

### **2.1 Introduction**

The structure of the LPG industry in Ireland is complex and involves a number of participants. The various aspects of the LPG supply chain industry and its participants are illustrated in Figure 1 on page 7 and described in sections 2.2 and 2.3.

### **2.2 The LPG Supply Chain**

As illustrated in the Figure 1, the key stages of the LPG supply chain in Ireland involve the:

- Importation of LPG by sea-going tankers and offloading at Dublin, Cork and Drogheda ports in Ireland;
- Bulk Storage of LPG in purpose built tanks at ports, distribution depots, industrial & commercial premises, automotive retail outlets, distributors premises and domestic properties;
- Transportation of LPG by road tankers throughout Ireland;
- Distribution of LPG in underground pipe networks on housing developments;
- Filling of LPG cylinders at various bulk storage sites around Ireland;
- Retailing of LPG cylinders at approved retail outlets and stockists;
- Importation and sale of non-reusable LPG cartridges and other LPG supply equipment such as tanks, cylinders and regulators;
- Retailing of LPG appliances; and
- Installation of LPG equipment by LPG installers.

There are two principal routes to market for LPG in Ireland. Firstly, the bulk contract route involves the direct bulk transport of LPG by road tanker between the various sources of supply to the various end-users. Secondly, LPG is distributed in cylinders to LPG dealers and stockists and subsequently onwards to end-users via distribution agents.

These are described in more detail on page 7.

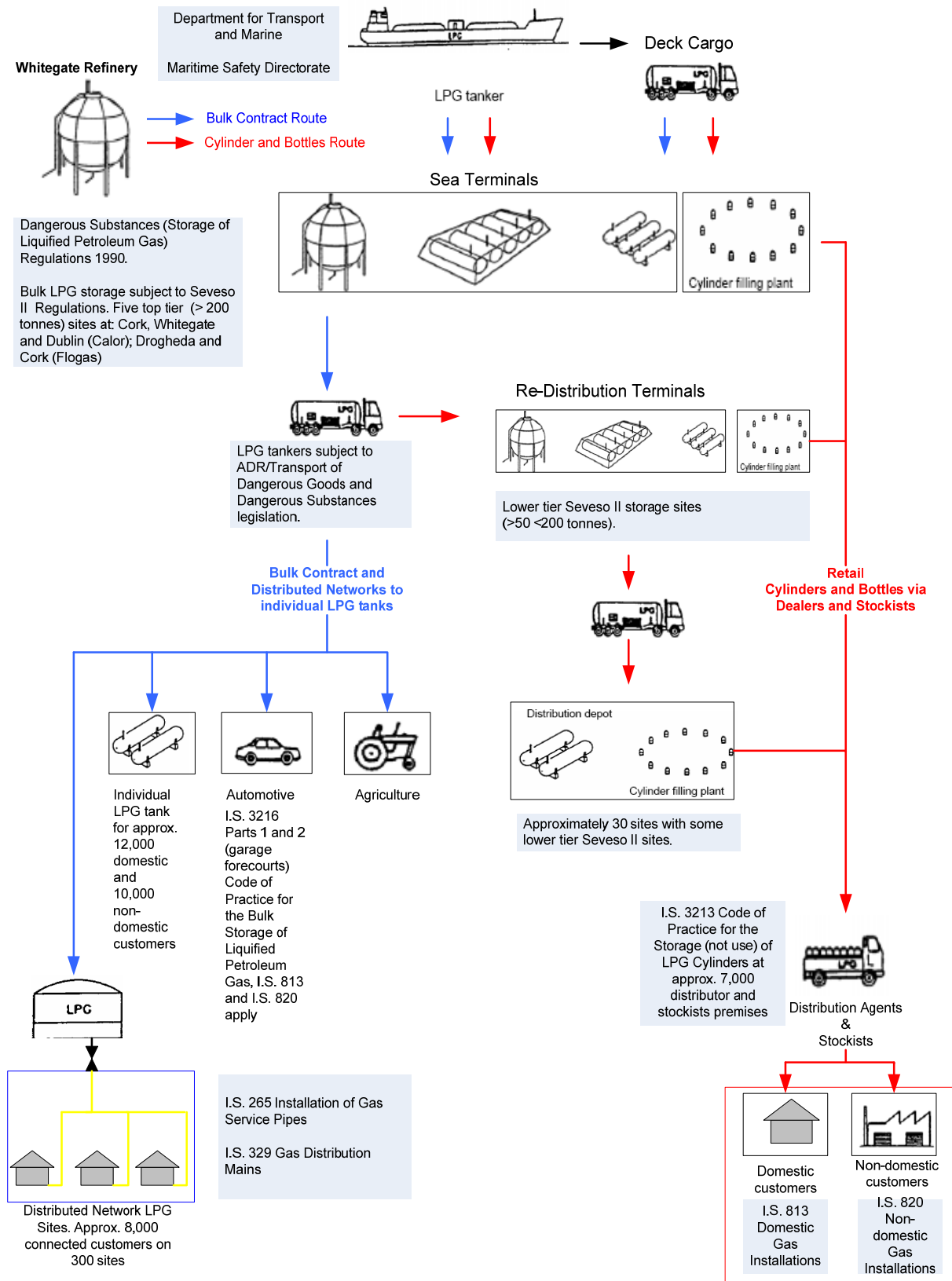


Figure 1: LPG Supply Chain

### 2.2.1 LPG Importation and Production

The majority of LPG is imported into Ireland as bulk liquid by sea on purpose-designed vessels that are contracted-in by the two main LPG suppliers, Calor and Flogas. LPG is off-loaded into bulk storage tanks at Dublin, Cork and Drogheda ports, and at the port of Belfast in Northern Ireland. A small percentage of LPG is imported by other suppliers in bulk road tankers as 'deck cargo' on ferries and, from time to time, when price differentials make doing so worthwhile, these suppliers use road tankers to transport LPG from Northern Ireland. Approximately 15-20% of the LPG used in Ireland is produced as a by-product from refining operations at the Whitegate oil refinery near Cork and this gas is used by both ILPGA members and other suppliers.

Safety regulation of LPG sea tankers operating within Irish waters is undertaken by the Maritime Safety Directorate under various maritime safety laws – e.g. *Maritime Safety Act 2005* and ports and harbour regulations.

### 2.2.2 LPG Bulk Storage

LPG is stored in bulk quantities in a variety of mounted vessels and containers including:

- large tank systems in Cork, Drogheda and Dublin ports;
- large tank systems at bridging storage depots in strategic geographical locations, including some depots where cylinder-filling takes place;
- large tank systems at the Whitegate refinery;
- large tanks or tank systems at the premises of industrial users;
- large tanks that supply LPG distribution systems (networks of mains and services);
- small tanks at commercial and domestic premises;
- small tanks at automotive retail outlets;
- cylinders and cartridges in quantity at distributors' premises; and
- cylinders and cartridges in smaller quantities at retail premises.

Generally, the level and extent of safety regulation of LPG bulk storage facilities increases with site capacity. Legislation applicable to LPG bulk storage sites includes:

- *Dangerous Substances (Storage of Liquefied Petroleum Gas) Regulations 1990*;
- *Control of Major Accident Hazard Involving Dangerous Substances Regulations 2006*; and
- *Safety, Health and Welfare Act 2005*.

### 2.2.3 LPG Transportation

The road system is the sole means of transporting LPG within Ireland. Road tankers convey gas in bulk to:

- Bridging storage depots and cylinder-filling plants;
- Industrial, commercial and domestic customers' premises;
- LPG networks; and
- Automotive re-fuelling outlets.

Other road vehicles transport cylinders to and from:

- Cylinder-filling plants;
- Distributors' premises;
- Retail outlets; and
- Commercial and domestic premises.

Most of the LPG road haulage fleet is owned and operated by Calor and Flogas and their various contractors. The transportation of LPG (and other dangerous goods) by road is subject to specific safety legislation including:

- *ADR Directive;*
- *Carriage of Dangerous Goods Acts and Regulations; and*
- *Safety, Health and Welfare Act 2005.*

### 2.2.4 LPG Distribution Networks

At approximately 300 locations around Ireland, LPG is distributed from bulk storage tanks to metered individual premises by means of networks of underground mains and services, in the same manner as natural gas is supplied. All LPG network systems are owned and operated by either Flogas or Calor and these systems comprise: (i) bulk storage tanks; (ii) associated pipework and equipment such as pressure regulators and valves; (iii) underground PE mains and services; and (iv) meters. As with natural gas, the end of the LPG network is defined as the outlet of the individual customer's meter. LPG meter installations are owned by the relevant network owner - i.e. either Flogas or Calor. There are established technical specifications applicable to the design, construction and maintenance of these underground pipe networks *but there is currently no gas safety legislation nor any safety regulatory licensing system in place for LPG networks to be owned and operated by any undertaking.*

### 2.2.5 LPG Cylinder Filling

Calor carries out all of its cylinder-filling operations in-house at its bulk storage port depots at Dublin and Cork. Flogas uses contractors to fill its cylinders at approximately twenty bulk storage locations around Ireland. Other suppliers fill their cylinders in various locations that are accessible to the ports and the

Whitegate refinery. Safety regulation of LPG cylinder filling is covered by the legislation described in section 2.2.2.

### **2.2.6 LPG Cylinder Retailing**

Cylinders are sold competitively to customers, mainly for domestic use, at retail outlets that have been approved as stockists by each supplier. Since both the cylinders and their contents are purchased by the customer, this method of supplying gas is significantly different to supplying bulk LPG or natural gas. Whilst the cylinder is sold to the customer filled with LPG, the responsibility for the maintenance and repair of that cylinder remains with the supplier. This activity can only occur on return of the cylinder to the supplier, potentially after several years. As cylinders contain a dangerous substance and are transported by road they have to comply with ADR requirements – i.e. the Carriage of Dangerous Goods by Road Regulations 2007, in aspects such as their design and testing.

### **2.2.7 LPG Cartridges**

Non-reusable cartridges containing LPG are imported, with no manufacturing or filling undertaken in Ireland.

### **2.2.8 LPG Supply Equipment**

LPG tanks, cylinders, regulators and similar equipment are currently bought in from abroad, including from the UK, to standards such as those found in I.S. 3213 and I.S. 3216. These items are not manufactured in Ireland.

### **2.2.9 The Customers LPG Installation**

The customer's LPG installation commences generally at the point of delivery and extends into the property. It includes connected gas appliances, appliance ventilation and flues. For individual customer tank installations, as well as cylinders, the point of delivery is the outlet face of the storage vessel isolation valve and the customer's pipework extends from this point. However, for LPG networks, the point of delivery is the outlet face of the isolation valve upstream of and closest to the meter, although the customer's system will usually commence on the outlet side of the meter.

### **2.2.10 LPG Appliances**

All gas appliances sold in Ireland, including those that utilise LPG, are subject to European Standards which have been incorporated as Irish Standards. Some of these appliances – e.g. barbecues and spot heaters, are available at many retail



outlets, whereas more significant appliances, such as central heating boilers, are only available from more specialised centres, such as plumbers' merchants. LPG appliances are required to comply with European standards, to be CE marked and in particular compliance with the Gas Appliance Directive. The National Standards Authority of Ireland (the 'NSAI'), National Consumer Agency (the 'NCA'), and the HSA have certain responsibilities in this regard.

### **2.2.11 LPG Installers**

Work on the part of the LPG system that is owned by the customer, who is typically the owner of the premises, is carried out by LPG installers contracted by the owner to undertake such work. This work would include installation, commissioning and maintenance activities on the customer's system.

The companies comprising the ILPGA currently consider LPG installers to be "*registered*" if the company is aware of their presence in the industry and if they are known to be experienced in carrying out the activities for which they are registered. Registration is currently voluntary and the number of non-registered LPG installers is not known. LPG installers are required to comply with standards such as: (i) I.S. 813 Domestic Gas Installations; and (ii) I.S. 820 Non-Domestic Gas Installations. Calor and Flogas check the installation (pipework, fittings and appliances) are in compliance with or exceed the requirements laid out in I.S. 813 or I.S. 820 before admitting gas although *work currently carried out by LPG installers is not regulated by any party*.

However the definition of a 'competent person' as set out in Section 2 (2)a of the Safety, Health and Welfare at Work Act 2005 is relevant here, as it relates to a person employed as a 'competent person' to do work on behalf of an employer or in a domestic situation as:

*"For the purposes of the relevant statutory provisions, a person is deemed to be a competent person where, having regard to the task he or she is required to perform and taking into account of the size of the hazards (or both of them) of the undertaking of 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".*

### **2.2.12 Other LPG Operatives**

LPG suppliers employ persons to work on their own installations and systems and operatives are employed to install tanks at consumers' premises, including vehicle re-fuelling outlets. Flogas and Calor will not install a bulk tank if any defect is apparent in the outlet (customer's) pipework. Meanwhile, gas distribution fitters are also employed by Calor and Flogas to install and maintain mains and services on

their LPG distribution systems. The 'competent person' requirement in Section 2(2)a of the Safety, Health and Welfare at Work Act 2005 also applies here.

## **2.3 The LPG Market**

The LPG market in Ireland comprises:

- LPG Suppliers – primarily Calor and Flogas;
- LPG Equipment Suppliers – appliances, tanks, cylinders and cartridges; and
- LPG Customer Sectors – automotive, agriculture, industrial, commercial and domestic

This is discussed further below.

### **2.3.1 LPG Suppliers**

Calor and Flogas are the two main suppliers of LPG in Ireland, providing bulk LPG to customers' tanks, networks and re-fuelling stations, and hold the majority of the market share of LPG supplied in cylinders. Several other established companies supply approximately 5% of the total LPG market, largely through the supply of cylinders.

### **2.3.2 Domestic and Commercial Bulk Suppliers**

A total of approximately 30,000 customers are supplied with bulk gas, as follows:

- 12,000 domestic tank customers;
- 10,000 commercial tank customers;
- 8,000 customers on some 300 LPG distribution networks, of which about 100 systems are for non-domestic LPG users.

In comparison, the natural gas industry supplies approximately 600,000 customers across Ireland. Therefore, the 30,000 LPG customers supplied by bulk tanks and distribution networks represent nearly 5% of Ireland's primary gas users. Almost all individual customers' tanks are owned by either Flogas or Calor.

### **2.3.3 LPG Cylinders**

In addition to bulk-supplied LPG, there is a very significant market in LPG cylinders used for non-primary heating purposes such as spot heating, which is very common, and leisure activities involving the use of barbecues, patio heaters, caravans and boats. LPG supplied in cylinders accounts for approximately 24% of

the total usage in Ireland and ILPGA members estimate that cylinders are used in one form or another by approximately half of the country's population.

### **2.3.4 LPG Cartridges**

There is a small market in LPG cartridges which are used in low-output appliances such as camping equipment and emergency lights.

### **2.3.5 LPG Road Fuel**

The take up of LPG as a road fuel has not been extensive to date and there are approximately 75 public filling facilities, typically located at petrol stations, in Ireland. A few hundred other filling facilities are for the private use of commercial organisations for filling their vehicles, notably forklift trucks.

### **2.3.6 Agriculture**

The market for the use of LPG in agriculture is quite small and overall consumption is not significant. In addition to normal domestic use on farms, LPG is mainly used for grain drying. Consumption levels are not inherently high and usage is seasonal and varies greatly according to the weather.

### **2.3.7 Industry**

While there are not many large industrial LPG consumers, several of these are “COMAH Regulations 2006/Seveso II” sites – i.e. greater than 50 tonnes of bulk storage LPG on site at any time, each of which involves significant gas consumption.

## 3.0 Consideration of Existing Legislation and Standards

### 3.1 Overview

As is evident from the description of the LPG supply chain outlined in section 2.2, there is a considerable amount of European Directives, Irish Legislation and Irish Standards relevant to the safety regulation of the Irish LPG industry currently being enforced in the following areas<sup>9</sup>:

1. **Marine Safety**
  - Maritime Safety Act 2005 (Gardaí)
2. **Storage Safety (Dangerous Substances)**
  - Dangerous Substances Act 1972 (HSA)
  - Dangerous Substances (Storage of Liquefied Petroleum Gas) Regulations 1990 (HSA)
  - EC Control of Major Accidents Involving Dangerous Substances Regulations 2006 (Currently under review by the HSA and the Department of Enterprise Trade and Employment following the enactment of the Chemicals Act 2008) (HSA)
3. **Road Transportation Safety**
  - ADR Directive, Annexes A and B, Amendments and corrigendum – 94/55/EC (HSA)
  - Directive on Dangerous Goods Safety Advisor – 96/35/EC (HSA)
  - Directive on Safety Advisors – 2000/18/EC (HSA)
  - Carriage of Dangerous Goods Act 1998 (HSA)
  - Carriage of Dangerous Goods by Road Regulations 2007 (HSA)
  - Briefing on Carriage of Dangerous Goods by Road Regulations 2007 (HSA)

<sup>9</sup> Enforcement body in brackets

#### 4. General Health & Safety<sup>10</sup>

- Safety, Health & Welfare (Offshore Installations) Act 1987  
(and all Regulations made under it) (HSA)
- Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (HSA)
- Safety, Health and Welfare at Work Act 2005 (HSA)
- Safety, Health and Welfare at Work (General Application) Regulations 2007 (HSA)
- Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007 (HSA)
- Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (HSA)

#### 5. Irish Standards

- National Standards Authority of Ireland Act 1996
- IS 265: 2000 (Ed 4) - Installation of gas service pipes
- IS 329: 2003 (Ed 2) - Gas distribution mains
- IS 813: 2002 (Ed 2) + 2 amendments - Domestic gas installations
- IS 820: 2000 / A1:2003 - Non-domestic gas installations
- IS 821: 2006 - Pressure regulating installations for distribution
- IS 822: 2007 - Gas pressure regulating installations on service pipelines
- IS 3213: 1987 - Code of Practice (COP) for the Storage of LPG Cylinders and Cartridges
- IS 3216:1988 - COP for the Bulk Storage of LPG
  - Part 1: Amendment 3 2000 – Tanks & Tanker Operations
  - Part 2: Amendment 3 1998 – Vehicle Refuelling<sup>11</sup>.

The Gas Appliance Directive (G.A.D) 90/396/EEC is also relevant here.

The following sections of this paper present the outcome of the Commission review of the above Directives, Legislation and Standards for each area of operation within the LPG supply chain with specific emphasis on the identification of the:

- Safety enforcement **gaps** which are not addressed **within the existing legislative framework**; and
- **Overlaps** in enforcement responsibilities **as a result of the full commencement of Section 14 of the 2006 Act**<sup>12</sup>.

<sup>10</sup> The HSA is responsible for the enforcement of the Safety, Health and Welfare at Work Act 2005 and associated regulations that apply to general workplace safety. All work activities, even those regulated or enforced by the Commission for gas safety are still subject to general workplace safety enforcement by the HSA.

<sup>11</sup> Please note that this is currently under review.

<sup>12</sup> As described in section 1.3 of this paper

### **3.2 Gap and Overlap Analysis by Areas of Operation**

In summary, the Commission identified safety enforcement **gaps** within the existing legislative framework in the following four areas of LPG operations:

- 1) The safety regulation of LPG installers and customers LPG installations with respect to domestic, commercial and industrial premises<sup>13</sup>;
- 2) The safety regulation of LPG distribution networks – i.e. underground distribution pipe systems on housing developments that convey LPG to individual customers premises; and
- 3) The reporting of LPG-related incidents in a domestic setting. For the avoidance of doubt, the Commission define the ‘LPG incidents in a domestic setting’ as all those LPG appliance related incidents in a domestic premises which are not covered in the list of ‘notifiable incidents’ involving LPG as set out in Regulation 12 of the Dangerous Substances (Storage of LPG) Regulations 1990 which must be reported to the HSA. Most of these ‘notifiable incidents’ are also reportable as Dangerous Occurrences to the HSA under Regulation 59(1)c and the list set out in the 12<sup>th</sup> Schedule of the Safety, Health and Welfare at Work (General Application) Regulations, 1993. The reporting of accidents under these Regulations would also apply where an accident/injury occurs during work activities involving LPG.
- 4) The Commission also notes that there is no statutory responsibility on any party to promote the safety of LPG customers or the carrying out of safety campaigns with respect to the safe utilisation of LPG as is the case with natural gas.

The Commission identified the following **overlaps** in enforcement responsibilities in the event **of the full commencement of Section 14 of the 2006 Act**.

- LPG Production;
- LPG Bulk Transportation
- LPG Bulk Storage;
- LPG Cylinder Filling
- LPG Cylinder and Cartridge Storage
- LPG Cylinder and Cartridge Transportation

---

<sup>13</sup> The Commission notes that with respect to LPG installations in commercial and industrial premises and working on LPG installations in domestic houses - the *Safety, Health and Welfare at Work Act 2005* and regulations made under that Act are relevant here. In particular the ‘competent person’ definition applies. Where the Commission identifies the safety regulation of LPG installers as a ‘gap’, it simply is referring to the fact that LPG installers are not subject to explicit safety regulation equivalent to natural gas installers.

- LPG Distribution Networks (in respect of the LPG bulk storage tanks that supply gas to the underground distribution pipe system);
- Industrial Customers' LPG Tanks;
- Commercial Customers' LPG Tanks;
- Domestic Customers' LPG Tanks; and
- LPG Cylinder and Cartridge Retailing.

However, the full commencement of the Section 14 of the 2006 Act should not have an impact in the area of LPG Importation.

The detail supporting this analysis is set out in Table 1 on the following pages.

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
1.	Production	Safety, Health and Welfare at Work 2005 Act and associated regulations	No	Yes  With respect to storage at the refinery. LPG storage is one area that would also be enforced by the Commission if there is full implementation of Section 14.	The HSA is responsible for enforcement of the Safety, Health and Welfare at Work Act. For storage at the refinery, see Bulk Storage below.  For the Commission to have enforcement powers to align with it any potential responsibilities with respect to LPG production under the 2006 Act, further primary legislation would be likely to be required.
2.	Importation	Maritime Safety Act 2005	No	No	Gardaí responsible for enforcement. The Safety, Health and Welfare at Work Act 2005 and associated Regulations would apply when the LPG ship is in port and offloading.
3.	Bulk Storage	Seveso II Directive and (Control of Major Accident Hazard Involving Dangerous Substances) Regulations 2006  Dangerous Substances Act and Dangerous Substances Storage of LPG Regulations 1990  Safety, Health and Welfare at Work 2005 Act and associated workplace regulations  IS 3216 - COP for the Bulk Storage of LPG - Part 1- Tanks & Tanker Operations	No	Yes  LPG storage is one area that would also be enforced by the Commission if there is full implementation of Section 14.	The HSA is named in current legislation as the safety enforcing authority for LPG storage as well as general workplace safety legislation.  Bulk storage takes place at ports, refinery and LPG distribution facilities. Dangerous Substances legislation applies in ports once ships are connected to LPG shore tanks.  For the Commission to have enforcement powers to align with it any potential responsibilities with respect to bulk storage under the 2006 Act, further primary legislation would be likely to be required.  For customer tanks, see further below.



Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
4.	Bulk Transportation	<p>ADR Directive</p> <p>Carriage of Dangerous Goods Act 1998 and associated regulations</p> <p>Safety, Health and Welfare at Work Act 2005 and associated workplace regulations</p> <p>IS 3216 COP for the Bulk Storage of LPG - Part 1- Tanks &amp; Tanker Operations</p>	No	<p>Possibly</p> <p>This would depend on the interpretation of whether the Commission function to <i>"regulate the activities of LPG undertakings and promote the safety of the public generally as respects the supply and distribution of LPG"</i> as pertaining to LPG transportation and tank filling.</p>	<p>The HSA is named in current legislation as the enforcing authority for LPG transportation as well as general workplace safety legislation.</p> <p>Enforcement of these regulations covers many products, not just LPG, so there would be considerable duplication.</p> <p>For the Commission to have enforcement powers to align with it any potential responsibilities with respect to bulk transportation under the 2006 Act, further primary legislation would be likely to be required.</p>
5.	Cylinder Filling	<p>Safety, Health and Welfare at Work 2005 Act and associated workplace regulations</p> <p>Dangerous Substances Act and Dangerous Substances Storage of LPG Regulations 1990</p> <p>IS 3216 COP for the Bulk Storage of LPG - Part 1- Tanks &amp; Tanker Operations</p> <p>IS 3213 COP for the Storage of LPG Cylinders and Cartridges [including container construction specifications]</p>	No	<p>Possibly</p> <p>This would depend on the interpretation of whether the Commission function to <i>"regulate the activities of LPG undertakings and promote the safety of the public generally as respects the supply and distribution of LPG"</i> as pertaining to LPG cylinder filling.</p>	<p>The HSA is named in current legislation as the enforcing authority for general workplace and LPG storage safety legislation.</p> <p>For large storage sites, see Bulk Storage above.</p>

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
6.	Cylinder and Cartridge Storage	<p>Dangerous Substances Act 1972 and Dangerous Substances Storage of LPG Regulations 1990</p> <p>Safety, Health and Welfare at Work Act 2005 and associated workplace regulations</p> <p>IS 3213 COP for the Storage of LPG Cylinders and Cartridges</p>	No	<p>Possibly</p> <p>This would depend on the interpretation of whether the Commission function to <i>"regulate the activities of LPG undertakings and promote the safety of the public generally as respects the supply and distribution of LPG"</i> as pertaining to LPG cylinder and cartridge storage.</p>	<p>This refers specifically to 'storage' in a workplace as defined in the regulations and standards, not small quantities kept by a customer for their own use.</p> <p>The HSA is named in current legislation as the enforcing authority for general workplace and LPG storage safety legislation. For large storage sites, see Bulk Storage above.</p> <p>For the Commission to have enforcement powers to align with it any potential responsibilities with respect to cylinder and cartridge storage under the 2006 Act, further primary legislation would be likely to be required.</p>
7.	Cylinder and Cartridge Transportation	<p>ADR Directive</p> <p>Carriage of Dangerous Goods Act 1998 and associated regulations</p> <p>Safety, Health and Welfare at Work Act 2005 and associated workplace regulations</p> <p>IS 3213 COP for the Storage of LPG Cylinders and Cartridges [including container construction specifications]</p>	No	<p>Possibly</p> <p>This would depend on the interpretation of whether the Commission function to <i>"regulate the activities of LPG undertakings and promote the safety of the public generally as respects the supply and distribution of LPG"</i> as pertaining to LPG cylinder and cartridge transportation.</p>	<p>The HSA is named in current legislation as the enforcing authority for LPG transportation as well as general workplace safety legislation. Enforcement of these regulations covers many products, not just LPG, so there would be considerable duplication if the Commission enforced this area. To comply with ADR legislation, cylinders and cartridges have to comply with IS 3213.</p> <p>For the Commission to have enforcement powers to align with it any potential responsibilities with respect to cylinder and cartridge transportation under the 2006 Act, further primary legislation would be</p>

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
					likely to be required.
8.	Cylinder and Cartridge Retailing	<p>Dangerous Substances Act 1972 and Storage of LPG Regulations 1990</p> <p>Safety, Health and Welfare at Work Act 2005 and associated workplace regulations</p> <p>IS 3213 COP for the Storage of LPG Cylinders and Cartridges.</p>	No	<p>Possibly</p> <p>This would depend on the interpretation of whether the Commission function to <i>"regulate the activities of LPG undertakings and promote the safety of the public generally as respects the supply and distribution of LPG"</i> as pertaining to LPG cylinder and cartridge retailing.</p>	<p>The HSA is named in current legislation as the enforcing authority for LPG storage as well as general workplace safety legislation.</p> <p>For the Commission to have enforcement powers to align with it any potential; responsibilities with respect to cylinder and cartridge retailing under the 2006 Act, further primary legislation would be likely to be required.</p>
9.	Vehicle Re-Fuelling	<p>Dangerous Substances Act 1972 and Storage of LPG Regulations 1990</p> <p>Safety, Health and Welfare at Work Act 2005 and associated workplace regulations</p> <p>IS 3216 COP for the Bulk Storage of LPG:</p> <ul style="list-style-type: none"> <li>Part 1 - Tanks and Tanker Operations</li> <li>Part 2 – Vehicle Re-fuelling</li> </ul>	No	<p>Yes</p> <p>For bulk (tank) storage. LPG storage is one area that would also be enforced by the Commission if there is full implementation of Section 14.</p>	<p>The HSA is named in current legislation as the enforcing authority for general workplace and LPG storage safety legislation.</p> <p>The HSA already enforces dangerous substances storage regulations with respect to the other fuels at petrol stations and a division of responsibilities with the Commission at these facilities would likely result in overlaps and confusion of responsibility.</p> <p>For the Commission to have enforcement powers to align with it any potential; responsibilities with respect to LPG Bulk Storage under the 2006 Act, further primary legislation would be likely to be</p>

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
					required.
10.	LPG Distribution Networks – LPG Central Storage Tanks	COMAH Regulations 2006/Seveso II Directive Dangerous Substances Act 1972 and Dangerous Substances Storage of LPG Regulations 1990 Safety, Health and Welfare at Work Act 2005 and associated workplace regulations IS 3216 COP for the Bulk Storage of LPG - Part 1- Tanks and Tanker Operations	No	Yes LPG storage is one area that would also be enforced by the Commission if there is full implementation of Section 14.	COMAH Regulations 2006/Seveso II regulations only apply where total storage capacity exceeds 50 tonnes. The HSA is named in current legislation as the enforcing authority for LPG storage as well as general workplace safety legislation. For the Commission to have enforcement powers to align with it any potential; responsibilities with respect to LPG Bulk Storage under the 2006 Act, further primary legislation would be likely to be required.
11.	LPG Distribution Networks – Underground Pipe Systems	Safety, Health and Welfare at Work Act 2005 and associated workplace regulations IS 265 Installation of Gas Service Pipes IS 329 Gas Distribution Mains IS 821 Gas Pressure Regulating Installations for Distribution IS 822 Gas Pressure Regulating Installations on Service Pipelines	Yes There is no current legislative requirement for the safety regulation of LPG underground pipe systems. Also, the requirement for LPG undertakings to report incidents does not appear to be explicit in Section 14.	No (Minor)	Although there does not appear to be any clear overlaps in enforcement responsibility here, it is noted that the HSA is responsible for enforcement of the Safety, Health and Welfare at Work Act 2005 and associated regulations.
12.	Industrial Customers' Tanks	COMAH Regulations 2006/Seveso II Directive Dangerous Substances Act 1972 and Dangerous Substances	No	Yes. LPG storage is one area that would have to be enforced by the Commission if there is	COMAH Regulations 2006/Seveso II Directive only apply where total storage capacity exceeds 50 tonnes. The HSA is named in current legislation as

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
		Storage of LPG Regulations 1990 Safety, Health and Welfare at Work Act 2005 and associated workplace regulations  IS 3216 COP for the Bulk Storage of LPG – Part 1- Tanks & Tanker Operations		full implementation of Section 14.	the enforcing authority for LPG storage as well as general workplace safety legislation.  For the Commission to have enforcement powers to align with it any potential; responsibilities with respect to LPG Bulk Storage under the 2006 Act, further primary legislation would be likely to be required.
13.	Industrial Installation of LPG Fittings and Utilisation of LPG	Safety, Health and Welfare at Work Act 2005 and associated workplace regulations  A combination of IS 265, IS 329, IS 813, IS 820, IS 821 and IS 822 is likely used as appropriate by professional engineers to best suit each situation	Yes  Industrial LPG installers are not subject to an explicit regulatory regime, although do come under Safety, Health and Welfare at Work Act 2005 and associated regulations e.g. on reporting of Accidents and dangerous occurrences.  No statutory responsibility on any party to promote the safety of LPG industrial customers or undertaking LPG safety campaigns with respect	No (minor)  Potential overlap with respect to incident investigation	Given the fact that this area of LPG Operation comes under the Safety, Health and Welfare at Work Act and associated regulations the extent of the 'gap' is not significant.  Where it was decided for the Commission to regulate this area, further primary legislation would be required to enable the Commission to define "LPG gas works" to enable the regulatory system to be enforceable.

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
			to the safe utilisation of LPG  There is a gap in definitive standards for industrial utilisation		
14.	Commercial Customers' LPG Tanks	Dangerous Substances Act 1972 and Dangerous Substances Storage of LPG Regulations 1990  Safety, Health and Welfare at Work Act 2005 and associated workplace regulations  IS 3216 COP for the Bulk Storage of LPG - Part 1- Tanks & Tanker Operations	No	Yes  LPG storage is one area that would have to be enforced by the Commission if there is full implementation of Section 14.	The HSA is named in current legislation as the enforcing authority for LPG storage as well as general workplace safety legislation.  For the Commission to have enforcement powers to align with it any potential; responsibilities with respect to LPG Bulk Storage under the 2006 Act, further primary legislation would be likely to be required.
15.	Commercial Installation of LPG Fittings and Utilisation of LPG	Safety, Health and Welfare at Work Act 2005 and associated workplace regulations  IS 820 Non-domestic gas installations	Yes  Commercial LPG installers are not subject to an explicit regulatory regime, although do come under Safety, Health and Welfare at Work Act and associated regulations e.g. on reporting of Accidents and dangerous	No (minor)  Potential overlap with respect to incident investigation	Given the fact that this area of LPG Operation comes under the Safety, Health and Welfare at Work Act and associated regulations the extent of the 'gap' is not significant, although potentially greater than in the Industrial area.  Where it was decided for the Commission to regulate this area, further primary legislation would be required to enable the Commission to define "LPG gas works" to enable the regulatory system to be

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
			<p>occurrences.</p> <p>No statutory responsibility on any party to promote the safety of LPG commercial customers or undertaking LPG safety campaigns with respect to the safe utilisation of LPG</p>		enforceable.
16.	Domestic Customers' LPG Tanks	<p>Dangerous Substances Act 2005 and Dangerous Substances Storage of LPG Regulations 1990</p> <p>Safety, Health and Welfare at Work Act and associated workplace regulations</p> <p>IS 3216 COP for the Bulk Storage of LPG - Part 1- Tanks and Tanker Operations</p>	No	<p>Yes</p> <p>LPG storage is one area that would have to be enforced by the Commission if there is full implementation of Section 14.</p>	<p>The HSA is named in current legislation as the enforcing authority for LPG storage as well as general workplace safety legislation. It should be noted that the 1990 Regulations do not apply to domestic customers. The Safety Health and Welfare at Work Act 2005 would apply when work is being undertaken,</p> <p>For the Commission to have enforcement powers to align with it any potential; responsibilities with respect to LPG Bulk Storage under the 2006 Act, further primary legislation would be likely to be required.</p>

Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
17.	Domestic Installation of LPG Fittings and Utilisation of LPG	Safety, Health and Welfare at Work Act 2005 and associated workplace regulations apply when work is being undertaken. IS 813 Domestic Gas Installations	<p>Yes</p> <p>Domestic LPG installers are not subject to an explicit regulatory regime.</p> <p>No statutory responsibility on any party to promote the safety of LPG domestic customers or undertaking LPG safety campaigns with respect to the safe utilisation of LPG</p> <p>The requirement for LPG undertakings to report LPG incidents in a domestic setting is not explicit in Section 14.</p>	No	<p>This is the most significant safety enforcement 'gap' currently and represents a relatively high public safety risk in comparison to other safety gaps identified.</p> <p>Where it was decided for the Commission to regulate this area, further primary legislation would be required to enable the Commission to define "LPG gas works" to enable the regulatory system to be enforceable.</p>
18.	Cylinder and Cartridge Utilisation	<p>For hard-piped industrial, commercial or domestic utilisation of cylinders, see 13, 15 and 17 above.</p> <p>For portable appliances in use at a place of work refer to The Safety, Health and Welfare at</p>	<p>No</p> <p>Note: All LPG appliances are required to comply with European Standards, to be CE marked and are covered under the requirements of the</p>	<p>Yes</p> <p>See industrial, commercial or domestic utilisation in sections 13, 15 and 17 above.</p>	<p>Hard-piped cylinders in use will be covered by the gas safety requirements of Section 14.</p> <p>Portable LPG cylinders have an inherent level of safety in their design and construction that allows safe use by the</p>



Table 1: Gap and Overlap Analysis Overview

Ref:	LPG Area of Operation	Legislation and Standards	Current Gaps?	Future Overlaps?	Further Comments / Discussion
		<p>Work Act 2005 and associated workplace regulations</p> <p>For portable appliances in a domestic situation there is no specific legislation</p>	<p>Gas Appliance Directive 90/396/EEC.</p> <p>It is not considered practical to apply prescriptive safety regulations to the storage of relatively small quantities of LPG at domestic customers premises. A practical approach is to improve customers safety awareness of the potential dangers associated with LPG in the same manner as for natural gas.</p>		<p>general public. LPG suppliers provide safety technical guidance on the safe use of LPG and portable LPG cylinders are visually inspected and leak-tested at every fill and re-qualified every 15 years by the LPG suppliers.</p>

### **3.3 Discussion on Identified Overlaps & Gaps**

#### **3.3.1 Overlaps**

It is clear from the analysis presented in Section 3.2 that there is potential for significant safety enforcement overlap between the Commission and the HSA should Section 14 of the 2006 Act be implemented on an 'as is' basis. The HSA has considerable enforcement powers across the LPG supply chain with respect to LPG production, bulk LPG storage, bulk LPG transportation and LPG storage and in the workplace generally. The full commencement of Section 14 of the 2006 Act would simply duplicate responsibilities in the above areas without any clear public safety benefits whilst also placing unduly onerous regulatory burden upon the industry.

#### **3.3.2 Gaps**

Following a comprehensive review of the 2006 Act, there is not a sufficient statutory basis for the Commission to address all 4 "gaps" identified in Section 3.2 upon commencement of Section 14 of the Act.

Firstly with respect to the *"safety regulation of LPG installers and LPG installations with respect to domestic, commercial and industrial premises"* gap, the commencement of Section 14 does enable the Commission to extend the infrastructure and mechanisms put in place to regulate natural gas installers, such as the role of the Gas Safety Supervisory Body (GSSB), to include LPG installers. This is due to the fact that Section 14 does not extend the gas safety provisions to LPG with regard to Section 11 of the 2006 Act. Given that Section 11 defines a natural gas fitting, and the definition of a natural gas fitting is the basis on which the Commission can designate gas works, it means that 'LPG' gas works cannot be designated under the 2006 Act. The designation of gas works is fundamental to the operation of the installer regulatory system as only registered gas installers can undertake such works. If 'LPG' gas works cannot be designated, the works which only registered 'LPG' gas installers can undertake cannot be restricted, and thus the regulatory system cannot work effectively.

With respect to the gaps of *Safety regulation of LPG Distribution Networks*, and *Reporting of LPG appliance related incidents in a domestic setting* a number of further points should be noted.

Firstly the term "LPG undertaking" is not defined in primary legislation. This presents difficulties in identifying the undertakings to which Section 14 of the 2006 Act applies.

Secondly, the Commission does not have a licensing relationship with 'LPG undertakings' as is the case with natural gas undertakings, and thus does not have a mechanism to enforce compliance with any safety conditions it sets out as part of a LPG safety regulatory framework. Therefore in order to regulate this area of the LPG supply chain, further primary legislation will be required to enable the enforcement of any safety requirements. However it is also noted that:

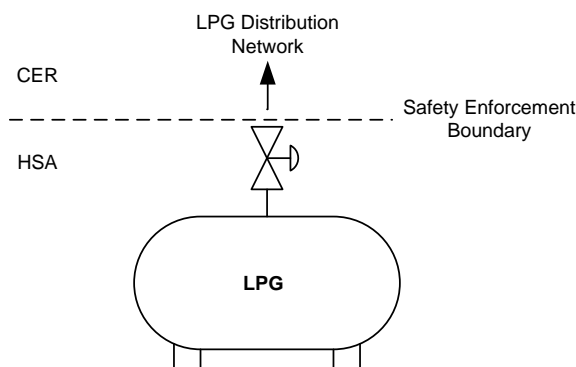
- There is no gas safety legislation or any safety regulatory licensing system in place for LPG networks to be owned and operated by any undertaking. The LPG bulk storage tanks on these networks are adequately covered through existing safety legislation but this does not extend to the mains, services and meters through which LPG is distributed to the end customer; and
- There is no reporting regime in place for LPG appliance related incidents in a domestic setting equivalent to the reporting regime for natural gas incidents. There is a requirement to report incidents to the HSA which are covered in the list of 'notifiable incidents' involving LPG as set out in Regulation 12 of the Dangerous Substances (Storage of LPG) Regulations 1990. Most of these 'notifiable incidents' are also reportable as Dangerous Occurrences to the HSA under Regulation 59(1)c and the list set out in the 12<sup>th</sup> Schedule of the Safety, Health and Welfare at Work (General Application) Regulations, 1993. The reporting of accidents under these Regulations would also apply where an accident/injury occurs during work activities involving LPG, which may occur in a domestic setting.

Finally the safety enforcement gaps outlined above reinforce the need for an effective public and industry awareness and promotion campaigns with respect to the safe use of LPG by all categories of customers. Although section 14 of the 2006 Act, would provide the Commission with a high level function in this regard, it would not provide it with the necessary powers to direct LPG undertakings to conduct such campaigns given that LPG undertakings are not legally defined and given the lack of a licensing relationship with LPG undertakings as referred to earlier.

### 3.3.3 Demarcation of Enforcement Responsibilities

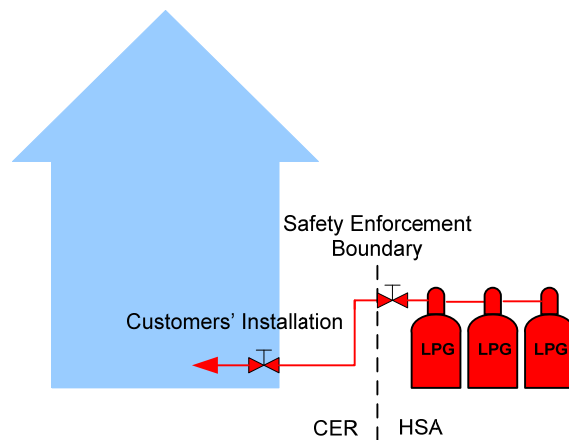
Notwithstanding the issues raised above, there appears to be a clear ‘boundary’ between: (i) the current safety enforcement responsibilities of the HSA under existing legislation; and (ii) the potential future safety enforcement responsibilities of the Commission with respect to the 4 enforcement gaps identified. This boundary line is illustrated in Figure 4 on page 31, and is described as follows:

- The Commission will be responsible for the enforcement of safety of the underground LPG distribution networks that comprise mains and service pipes that distribute LPG to end-users together with the meter installations through which LPG is measured for billing purposes but excluding the LPG storage tank as this aspect of safety is enforced by the HSA under LPG storage safety legislation. However, if an accident or dangerous occurrence happened during work activities on these pipeline networks, the Safety, Health and Welfare at Work Act 2005 would apply and the HSA would have a role in the investigation, preserving the scene as part of the criminal investigation. The upstream boundary of these distribution networks is the outlet connection of the LPG tank isolation valve (see Fig 2); and
- The installation downstream of the meter inside the customers’ premises but excluding the LPG cylinder as this aspect of safety is enforced by the HSA under LPG storage safety legislation. However, in the event of accidents and/or dangerous occurrences inside the customer’s premises, the HSA would have a role under the Safety, Health and Welfare at Work Act 2005 as described above. Notwithstanding the HSA’s accidents and dangerous occurrences investigation role, the boundary between the customers’ installation and the LPG supply is the outlet of the customers’ emergency control valve at the cylinder outlet (see Fig 3).



**Figure 2: Boundary of LPG Tank and LPG Distribution Network<sup>14</sup>**

<sup>14</sup> Although the HSA has safety enforcement powers under the Dangerous Substances (Storage of LPG) Regulations 1990, it is not consulted at the planning stage of LPG tank installations and therefore has no prior notification of their installation. The HSA’s role is therefore limited to the investigation of accidents, incidents and dangerous occurrences.



**Figure 3: Boundary of Customers' Installation and LPG Cylinder(s)<sup>15</sup>**

Given the stated view of the Commission that it seeks to ensure that its interface with the HSA is robust and that there is a clear demarcation of the areas of safety responsibility of these parties, this proposed enforcement boundary provides a pragmatic and workable framework to guide any potential primary legislation in this area (see proposed HSA/Commission safety regulatory boundary in Figure 4 on the following page).

<sup>15</sup> Figure 3 is a simplistic representation of a customer's installation which is intended to convey the principle of where a 'generic' HSA/Commission safety boundary may exist. It should be noted that customers who are subject to workplace health and safety legislation will be subject to the enforcement powers of the HSA.

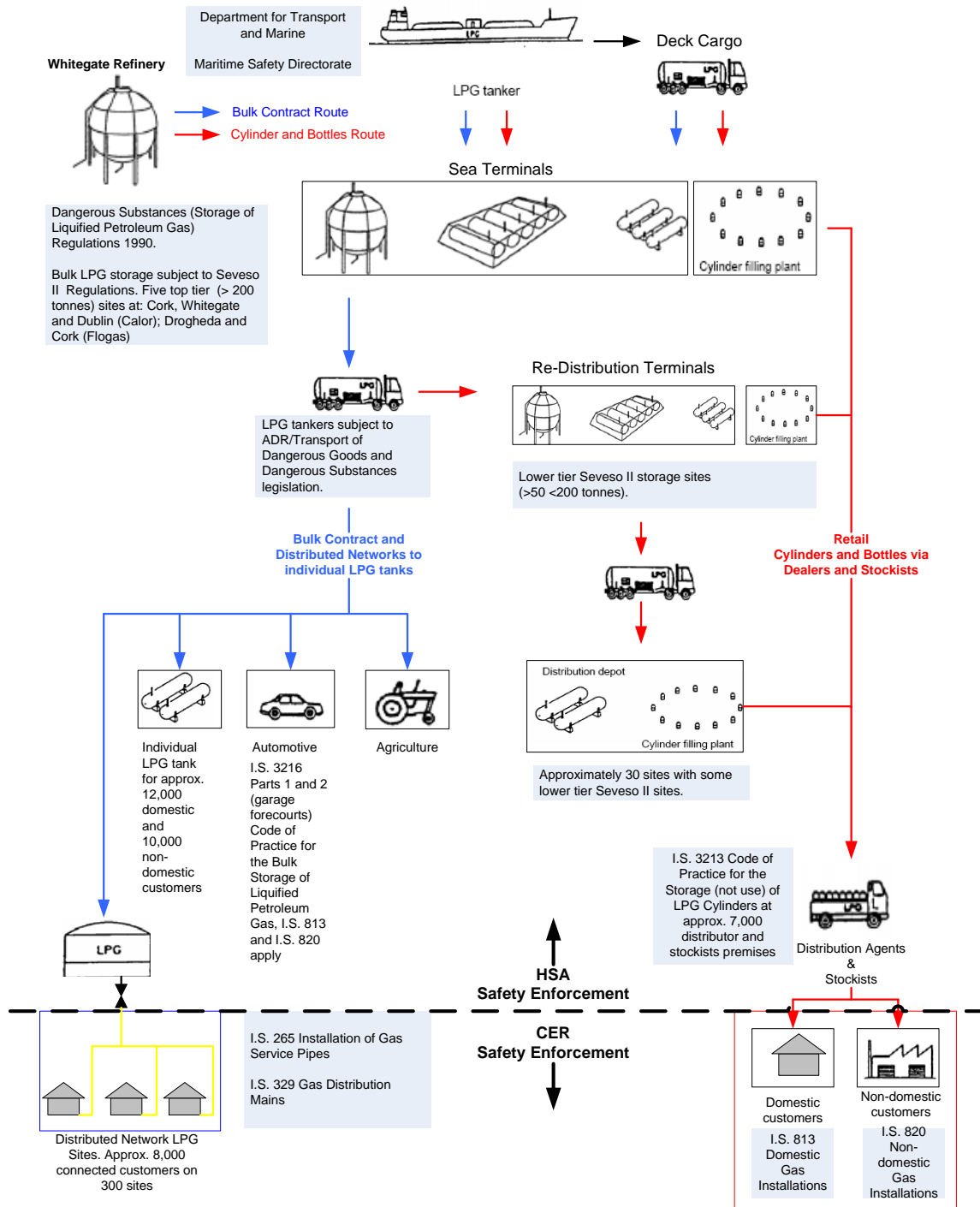


Figure 4: Boundary of HSA and CER Safety Enforcement for LPG Activities

## 4.0 Conclusions

### 4.1 Summary of Conclusions

1. The vast majority of the LPG supply chain is adequately addressed through existing legislation and regulatory oversight *with the following exceptions*:
  - LPG installers and LPG installations with respect to domestic, commercial and industrial premises<sup>16</sup>;
  - LPG distribution networks with respect to underground pipe systems (but not the central LPG storage tank as this aspect is covered under Dangerous Substances (Storage of Liquefied Petroleum Gas) Regulations) 1990; and
  - LPG appliance related incident reporting in a Domestic Setting; and
  - the need for statutory responsibilities to be placed on undertakings to promote the safety of LPG customers and conduct LPG safety campaigns with respect to the safe utilisation of LPG.
2. The full commencement of section 14 of the 2006 Act on an 'as is' basis will result in a significant amount of regulatory overlaps between the Commission and the HSA without any clear public safety benefits whilst also placing an unduly onerous regulatory burden upon the industry.
3. The provisions of Section 14 of the 2006 Act as it currently stands are not sufficient to address the identified safety gaps for a number of reasons. Firstly the term "LPG undertaking" is not defined in primary legislation which presents difficulties with respect to whom the safety framework provisions would apply. Secondly, the Commission does not have a licencing relationship with 'LPG undertakings', as is the case with natural gas undertakings, and thus does not have a mechanism to enforce compliance with any safety conditions it sets out as part of a LPG safety regulatory framework. If it is considered necessary to regulate the LPG distribution networks area of the LPG supply chain, further primary legislation will be required to enable the enforcement of any safety requirements. This should provide for the placing of statutory responsibilities on LPG undertakings to promote the safety of LPG customers and conduct LPG safety campaigns with respect to the safe utilisation of LPG, Finally Section 14

---

<sup>16</sup> The Commission notes that with respect to LPG installations in commercial and industrial premises the *Safety, Health and Welfare at Work Act 2005* and regulations made under that Act are relevant here. When the Commission notes the safety regulation of LPG installers with to commercial and industrial premises as a 'gap', it simply is referring to the fact that LPG installers are not subject to explicit safety regulation equivalent to natural gas installers

does not extend the gas safety provisions to LPG with regard to Section 11 of the 2006 Act. Given that Section 11 defines a natural gas fitting, and the definition of a natural gas fitting is the basis on which the Commission can designate gas works, it means that 'LPG' gas works cannot be designated under the 2006 Act. The designation of gas works is fundamental to the operation of the installer regulatory system as only registered gas installers can undertake gas works. If 'LPG' gas works cannot be designated, the works which only registered 'LPG' gas installers can undertake cannot be restricted, and thus the regulatory system cannot work effectively.

4. A sensible boundary between (i) the current safety enforcement responsibilities of the HSA under existing legislation; and (ii) the potential future safety enforcement responsibilities of the Commission with respect to the 4 enforcement gaps identified exists at:
  - The underground LPG distribution networks that comprise mains and service pipes that distribute LPG to end-users together with the meter installations through which LPG is measured for billing purposes but excluding the LPG storage tank. The upstream boundary of these distribution networks is the outlet connection of the LPG tank isolation valve; and
  - The installation downstream of the meter on the customers' premises but excluding the LPG cylinder/tank. The boundary between the customers' installation and the LPG supply is the outlet of the customers' emergency control valve upstream of and closest to the meter or at the cylinder/tank outlet<sup>17</sup>.

The enforcement of safety downstream of these boundaries should be the responsibility of the Commission.

---

<sup>17</sup> Please see clarification comments made with respect to Figures 2 and 3 in Section 3.3.3 Demarcation of Enforcement Responsibilities.



## 5.0 Proposals

### 5.1 Summary of Proposals

It should be noted that the Department and the HSA, following consultation and discussion, agree with the conclusions of the Commission as set out in Section 4.0

Therefore the Commission advises the Minister that:

1. The Minister does not commence section 14 of the 2006 Act in its present form;
2. Further primary legislation is enacted which addresses the 4 identified gaps, namely:
  - i) LPG Installers and LPG Installations;
  - ii) LPG Distribution Networks;
  - iii) Reporting of LPG Related incidents in a Domestic Setting; and
  - iv) Statutory Responsibility to be placed on undertakings to promote the safety of LPG customers and conduct LPG safety campaigns.
3. The primary legislation to be developed in 2 distinct phases, in order of priority:
  - i) Phase 1 legislation to address the “LPG installers gap” by extending the existing regulation of natural gas installer infrastructure to include LPG installers. Greater priority is attached to this legislation given that the LPG installers gap represents a higher safety risk.
  - ii) Phase 2 legislation to address the remaining gaps as a medium term priority. This legislation would provide for the safety regulation of LPG Distribution Networks, LPG appliance related incident reporting in a domestic setting and LPG promotion by the Commission. Work on developing this legislation would be commenced by the Department after the Commission has publicly consulted upon the most appropriate framework for such a regulatory system.

## **5.2 Next Steps**

The Department have expressed their agreement with the Commission's proposals set out in Section 5.1 and have commenced work on the Phase 1 primary legislation. It is the intention of the Department that this legislation will be in place before the end of the year, with a commencement order provision attached to enable the Commission to extend the natural gas installer infrastructure to the LPG installers after a suitable transition period. The Commission will continue to work closely with the Department in this regard.

With respect to developing the Phase 2 legislation, the Commission intends to publish a consultation paper before the end of the year on the appropriate options available for the safety regulation of LPG Distribution Networks, LPG appliance related incident reporting in a domestic setting and LPG promotion. The outcome of this consultation process will subsequently feed into the Department's process for developing the necessary legislation with the expressed intention of minimising unnecessary regulatory overlap and achieving better safety outcomes. A timeline for the delivery of this legislation will also be outlined at that time.

## Appendix A – Glossary of Terms

<b>ADR:</b>	ADR is the name given to The European Agreement concerning the Carriage of Dangerous Goods by Road.
<b>CER:</b>	Commission for Energy Regulation.
<b>CE Marked:</b>	The CE marking is a mandatory European marking for certain product groups to indicate conformity with the essential health and safety requirements set out in European Directives.
<b>COP:</b>	Code of Practice.
<b>GSSB:</b>	Gas Safety Supervisory Body, as designated by the Commission under the 2006 Act.
<b>HSA:</b>	Health and Safety Authority.
<b>ILPGA:</b>	Irish Liquefied Petroleum Gas Association.
<b>LPG:</b>	Liquefied Petroleum Gas.
<b>MoU:</b>	Memorandum of Understanding.
<b>PE Mains:</b>	Polyethylene mains.
<b>Seveso Directives:</b>	Major accidents in chemical industry have occurred world-wide. In Europe, following the Seveso accident in 1976 prompted the adoption of legislation aimed at the prevention and control of such accidents. In 1982, <i>the first EU Directive 82/501/EEC</i> – so-called Seveso Directive – was adopted. On 9 December 1996, <i>the Seveso Directive was replaced by Council Directive 96/82/EC</i> , so-called Seveso II Directive. This directive was extended by the Directive 2003/105/EC. The Seveso II Directive applies to approximately 120 industrial establishments in Ireland where dangerous substances are present in quantities exceeding the thresholds in the directive.