

Rec'd
15/10/08

Mrs Anne Ferguson and Mrs Louise Smith
Core Participants

1. Findings of Fact

We do not wish to submit any proposed findings of fact.

2. Lessons to be learned

We have set out below our proposed lessons to be learned:

- (a) The pipework should have been installed by a competent person and overseen by an identified individual. In our view the "competent person" should have been the gas company (supplier)
- (b) The responsibilities of the customer and the supplier for the LPG system including the pipework should have been clearly defined and explained
- (c) A schedule of maintenance for the LPG system should have been put in place at the time of installation
- (d) The pipework (in particular if underground) should have been tested at regular intervals
- (e) LPG pipework should have been clearly identifiable on the premises by mapping and diagrams
- (f) An LPG detection system should have been mandatory as part of an LPG installation
- (g) Pyrotechnic light switches should have replaced regular light switches in areas of a building that were exposed to LPG
- (h) There should have been a clear system to ensure that any Health and Safety Executive (hereinafter referred to as HSE) recommendations and/or instructions had a deadline for the action to be completed and were followed up

- (i) The HSE system should have been continuous and clearly accessible to all HSE Inspectors (to ensure continuity)
- (j) ICL should have been advised by HSE of the differences between recommendations and enforceable directives. The consequences, if action was not taken, should also have been explained
- (k) HSE should have the freedom to take actions against (prosecute) companies
- (l) HSE spot checks should have been implemented
- (m) One person, the "Dutyholder", should have been formally identified within the ICL as being responsible for Health and Safety and liaising with HSE and the gas supplier(s)
- (n) The Dutyholder must have the knowledge, training and expertise in line with the post. There should have been a requirement to keep "up to date" with best practice
- (o) Information of the HSE website should not be chargeable and freely available
- (p) There should have been a channel of communication between HSE, the gas suppliers and customers to ensure that information regarding major incidents or new risks are highlighted.
- (q) Employees should have been informed about the risk of LPG and information should be provided as to what to do in case of detection.
- (r) The suitability of the premises (Grovepark Mills) to which LPG was being supplied should have been given more consideration. There should have been Health and Safety checks to include regular standard checks. ICL should not have been able to expand their building (Grovepark Mills) in the way that was done.

Our proposed lessons to be learned have been set out in more detail below along with the measures we consider could have prevented this event from happening at Grovepark Mills.

Installation

- **A competent person should have been present during the installation or at the completion of the installation of the LPG pipework.** In our view this means that LPG should have been installed fully by the gas company. In relation to the ICL premises the installers were marine engineers, their level of training and qualifications were unknown and there was no-one to regulate the competency of installers.
- As with Natural Gas, **Gas companies should have full responsibility for installing the whole LPG gas system** – including gas, pipes, digging, and backfilling. Additional costs should have been met by ICL.
- **There should have been an identified individual that oversaw the installation of the LPG system.** There was a breakdown of communication between ICL and the gas company (Calor Gas) regarding responsibilities for different parts of the whole system. This communication should extend from the digging for the pipework to the laying pipes and subsequently the backfilling. In the case of ICL there was no-one overseeing the quality of **all** the steps. This was exemplified during the evidence of Mr Keith Young (Calor Gas) when he explained that the pipework was backfilled with the wrong material.
- To ensure that LPG pipework is properly maintained, as part of the installation process there should have been a **maintenance contract** or a clause within the contract with the gas supplier to ensure that the pipework is checked as often as the gas supplier recommends after installation.

Maintenance of LPG pipework

- There should have been a **requirement to test the pipework at regular intervals** and this should have been recorded by means of a certificate. The schedule for testing and details of this testing should have been completed and been the responsibility of ICL being overseen and checked by HSE.

- To ensure awareness of LPG pipework on premises **plans/maps should have been drawn up identifying the layout of pipework and clearly mapping its location**. This should have been responsibility of ICL.
- Consideration should also have been given to the use of **ground testing** in relation to LPG pipework.

Safety measures

- **An LPG detection system should have been a mandatory part of the LPG installation**. There was evidence during the course of Phase One of the Inquiry about the stanching agent in LPG. It is our understanding, following this evidence, that a stanching agent is only as buoyant as LPG gas. As LPG gas is heavier than air this would mean, and appears to be supported in the evidence, that the gas leak would only be detected at the point of the gas leak, in this case in the basement. An LPG detection system may have detected the gas before an employee would have smelt it.
- Measures should have been put in place to increase awareness of the smell of LPG, in particular, amongst employees and **procedures put in place to be followed if LPG was detected**.
- Following the evidence provided by Dr Hawksworth **pyrotechnic light switches should have replaced regular light switches** in areas of a building that were exposed to LPG.

Inspection

- **All HSE recommendations should have been stated clearly and followed up**. There should have been a clear system which ensured that any HSE recommendation or instruction had a deadline for action to be completed. Dates for revisits should have been agreed to ensure that ICL had acted upon the recommendations.

- **This system should have been continuous and clearly accessible to all HSE staff that could be potentially involved in visits.** So if a new member of staff took over the next steps to take would be clear. If different members of staff were checking different risks then all issues would be shared and not held separately in their specific area.
- **Clear rules and instructions should have been given to ICL with regard to the distinction between a recommendation and enforceable directives.** More of the system should have been enforceable and ICL should have been required to enforce the HSE direction under law. There needs to be clear consequences if action is not taken
- **There should have been a clear line of responsibility for Health and Safety within ICL.** Company Directors and Executives ultimately need to take responsibility for ensuring there is a properly trained person within the company who is dedicated to this purpose
- **HSE should have had the freedom to take action against a company.** Concerns over the consequences surrounding actions that do not lead to successful conclusion should not be prohibitive – ie if HSE has a valid concern they should have the power to investigate, or intervene without having to ensure that their case is 100% watertight.
- **Spot checks should have been implemented** to ensure that measures are not implemented purely for the visit of HSE Inspectors. This would have provided HSE with an accurate account of processes.

Management

- **There should have been one person formally identified by ICL the person responsible for dealing with Health and Safety and liaising with HSE and external agencies such as gas suppliers.** Such roles and responsibilities should have been documented and updated to reflect the current Dutyholder.

- **Once identified the Dutyholder must have knowledge, training and expertise in line with the post.** This can't just be a title, the person must have responsibility for and ownership of the communication with HSE and external agencies
- **Dutyholders should have to refresh their knowledge of Health and Safety regulations** to ensure that they are aware of latest regulations and best practice. Training courses could be run by an external body or HSE to update dutyholders on changes in practice, for example.
- **All information/advice from HSE website should have been freely accessible to ICL (and in other circumstances private companies) to encourage good practice – no aspect should be chargeable**

Education and distribution of information

- There should have been **dissemination of information** amongst the gas companies and HSE with regard to LPG. The lack of dissemination of information was highlighted during Phase One with the lack of knowledge amongst the industry about the incident in Daventry. There should perhaps be an alert system in place (possibly through an intranet or by email) to highlight incidents such as Daventry that highlight a new risk that inspectors /employees may not be aware of. There may also be merit in a table of all LPG leakages being published and alerted to customers.
- **Employees should have been informed about the risk of LPG and information should have been provided as to what to do in case of detection.** If someone smells natural gas they usually know to leave the building as they are aware of the smell. It was not clear from the evidence in Phase One if, even if someone had detected the smell, they would have known that it was LPG.

Suitability of premises/Building and Property Maintenance

- **There should have been Health and Safety checks to include regular standard checks.** There also should have been, at least annually;

- a check of the fabric of the building
- checks to any extensions/alterations/additions
- works done to ensure certification

These measures would have ensured that any work undertaken was done by a qualified professional

- **ICL should not have been able to expand their building (Grovepark Mills) in the way that was done.** For example, having employees in the building without water at one end and making structural alterations without applying for building warrants or informing the insurers of these changes.

Summary

- There is an evidence based model of effective good practice in the system around installing, managing, maintaining and inspecting natural gas. Any changes proposed should look to replicate this model in as many ways as possible.
- We have identified above some of the measures that could have prevented this event from happening. In summary, the key lessons to be learned relate to the installation, management, maintenance and inspection of the LPG regime and in particular the pipework. There should also be consideration given to further safety measures that could be implemented and education across the industry.

Mrs Anne Ferguson

Mrs Louise Smith

