SAFEcontractor

# Lifts & Confined Spaces

## Guidance Note No.21

November 2009

Guidance Note

# Working in Confined Spaces – Guidance for Lift Engineers

Every year workers are injured and killed while working within confined spaces – in 2004/2005 at least 8 workers died while working in a confined space. Those killed include those working within the confined space and those who try to rescue them without proper training and equipment.

## What is a Confined Space?

The Confined Spaces Regulations 1997 define a confined space as:

**"Any place, in which by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk**"

The specified risks include the presence of flammable substances or toxic substances, lack of oxygen, excessive heat and ingress of liquids and free flowing solids.

Some confined spaces are obvious such as silos, sewers, trenches etc. However, others may be less obvious such as open topped vats, ductwork and unventilated rooms.

There is some debate as to whether lift shafts and pits would be classified as a confined space.

## The Lift and Escalator Industry Association (LEIA) View.

It is the view of the LEIA that only on rare occasions will lift pits and shafts need to be treated and controlled as confined spaces.

A site survey and/or risk assessment will determine whether a lift pit or shaft should be treated as a confined space. However, if any of the following situations are identified in the Site Survey/Risk Assessment, then the pit/shaft should be treated as being a confined space:

- Contamination arising from adjacent plant eg exhaust fumes
- Substances, gases or vapors such as LPG leaking into the lift pit from adjacent plant etc
- Contamination by substances which are some distance away eg the use of heavier than air adhesives on floors above the lift pit. These fumes could fall down the shaft and accumulate in the pit.

(REF: Confined Spaces: Lift Pits and Shafts as Confined Spaces, a safety information sheet produced by the Lift and Escalator Industry Association (LEIA). Copies available to members on the LEIA website at: www.leia.co.uk)

A basic example of a Site Survey can be found in Appendix 1. If the answer to all the questions listed on the form is **No**, then the working area is highly unlikely to be classed as a confined space (Confined Spaces classification is still based on your risk assessment findings).

However if the answer to any of the questions is **Yes**, then the pit/shaft is likely to be classed as a confined space. A safe system of work for confined spaces should then be established and acted upon.

Please note that the information listed above is only a guide and it is the duty of the employer (or self-employed person) to determine whether the area would actually be classed as a confined space.

## Precautions to take if the Lift Shaft or Pit is classed as a Confined Space

The Confined Spaces Regulations 1997 require that wherever possible the need to enter a confined space is avoided. When this is not possible, you should;

- carry out an assessment of the risks associated with entering the confined space and draw up a safe system of work;

The safe system of work will be determined by the findings of the risk assessment but will typically need to include:

**Supervision** – The work should be supervised by a competent person, who may need to be present whilst the work is being undertaken. This person will need to ensure that any permit-to-work procedure is adhered to and that anyone in the vicinity of the confined space is informed of the work being done.

**Communication** – Ensure that an adequate communication system is in place; between those working inside the confined space and those outside; and that those inside are able to summon help in an emergency. (The system used must ensure that messages are communicated easily, rapidly and unambiguously).

**Gas Purging** – Is a flammable/toxic vapour present within the confined space? If so there may be a need to purge the confined space prior to entry.

**Isolation** – Any electrical or mechanical equipment used within the confined space needs to be adequately isolated to ensure that it does not operate, or cannot be operated inadvertently. The confined space will also need to be isolated from the ingress of dangerous substances eg by physical removal of sections of pipes/ductwork. Whatever means of isolation is used, checks must be made to ensure that they are effective.

**Suitability of Equipment** – Ensure that any equipment used in a confined space is suitable for the purpose e.g. where there is a risk of flammable gas entering the confined space ensure that the equipment used is certified for use in a flammable atmosphere.

**Use of Personal Protective Equipment PPE)/Respiratory Protective Equipment (RPE)** – PPE/RPE should only be used as a last resort, when the use of other methods is not practicable, for example where it is not possible to ventilate the confined space RPE must be worn.

**Permit-to-Work Systems** –Ensure that a permit-to-work (PTW) procedure is in place for the duration of confined space operations.

Please note that a PTW is an extension of the safe system of work, not a replacement for it.

**Training -** Entry into confined spaces should be limited to employees who are competent to do so and who have received suitable training;

Confined spaces training will need to cover;
- awareness of the Confined Spaces Regulations including the need to avoid entry wherever possible
- understanding of the work to be done, the hazards involved and necessary precautions
- understanding the safe system of work and any PTW procedures in place
- how emergencies arise and the need to follow emergency procedures.

**Atmospheric Tests** – the air within the confined space needs to be tested to ensure it is free from toxic and flammable vapours and is fit to breathe e.g. by the use of a calibrated gas detector. Continuous air monitoring may also be required.

**Ventilation** – The confined space may be enclosed to such an extent that mechanical ventilation is needed to ensure an adequate supply of fresh air. (For example by the use of blower fans and trunking). Ventilation may also be increased by increasing the number of openings into the confined space.

## Rescue Arrangements

Before anyone goes in to the confined space, suitable rescue (and resuscitation) arrangements must be in place. It is imperative that the method of rescue proposed does not put the rescuers health and safety at risk.

These arrangements must include;

**Raising the Alarm** – Measures must be in place to ensure that those working within the confined space can communicate their distress to those outside so that emergency procedures can be implemented. For example a tug of the rope, radio communication or activating a lone worker alarm.

**Rescue and Resuscitation Equipment** – Appropriate rescue/resuscitation equipment must be provided and properly maintained. This equipment will often include lifelines and lifting equipment (to raise unconscious personnel).

**Safeguarding the Rescuers** – Multiple fatalities have occurred when rescuers have been overcome by the same conditions that have affected those that they are trying to rescue (see Appendix 2). Ensure that rescuers are themselves protected from the cause of the emergency.

**Emergency Services** – Ensure that arrangements are in place to contact the emergency services in the case of any accident. When the confined space work is of a prolonged nature and the risks justify it, notify and consult with the emergency services in advance.

**First Aid** – Ensure that appropriate first aid equipment is provided and used until professional help arrives.

**Rescue Operations** – Personnel chosen to carry out rescue operations need to be trained for that purpose. The training will need to include; likely causes of the emergency, use of rescue equipment, check procedures before donning/using apparatus, checking that emergency

equipment is functioning, identification of defects, resuscitation/emergency first aid, use of fire fighting equipment, liaison with emergency services and rescue techniques.

## References

L101, Safe work in confined spaces, CS regulations 1997 ACOP - available from HSE Books Tel: 01787 881165

INDG258 - Safe work in confined spaces - available at www.hse.gov.uk/pubns/indg258.pdf
Confined Spaces: Lift Pits and Shafts as Confined Spaces, a safety information sheet produced by the Lift and Escalator Industry Association (LEIA). Copies available to members on the LEIA website at: www.leia.co.uk)

**Appendix 1**

# CONFINED SPACES SITE SURVEY

## Company:_____

## Site address:_____

_____

## Location of shaft/pit/motor room:

_____

**Before work in a lift shaft/pit/motor room commences, please identify if any of the following are present**

| | | | |
|---|---|---|---|
| **a)** | Is there contamination from adjacent plant e.g. diesel engine exhaust fumes etc? | **YES** | **NO** |
| **b)** | Are liquids or gases leaking into the pit/shaft from nearby plant or stared chemicals etc? | **YES** | **NO** |
| **c)** | Are there processes elsewhere which could lead to the work area being contaminated? e.g. Use of adhesives on upper floors | **YES** | **NO** |
| **d)** | Are there other contractors on site who could provide a source of contamination? | **YES** | **NO** |

**If the answer to any of the above is YES the area will fall within the scope of the Confined Spaces Regulation 1997, and the following precautions will need to be put into place;**

| | |
|---|---|
| **1.** | First contact the client and determine whether the hazard can be eliminated by them. For example can plant that is producing the contaminant be shut down? Can other works causing contamination of the shaft/pit/motor room, and if achieved can the area be ventilated? |
| **2.** | If the answer to Q1 is **NO** a safe system of work must be implemented if any work is to continue. |

## Name:_____
## Date:_____