



## **Guide Lines for making a Risk Assessment on LPG Installations**

The Risk Assessment should contain the following general information:

Name of Company:

Company Chairman or Manager or Representative:

Address:

Contact Details:

Date of Installation:

Date of Last Service:

Date of Next Service:

Name of Competent Person:

Contact Details:

Signature of Competent Person (and on each RA sheet):

And should oversee the following technical items<sup>1</sup>:

- i) *the siting of the :*
  - a. *storage area of the vessel/s or cylinders;*
  - b. *the piping; and*
  - c. *LPG accessories;*
- ii) *the operational procedures related to the installation with special mention to the filling of the vessel.*
- iii) *the safety precautions for the whole installation*

Section 1 and section 2 give examples of a 'risk assessment matrix' and a 'hazard likelihood factor' assessment respectively that could be followed in the Risk Assessment Report.

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<sup>1</sup> The receipt of this risk assessment by the MRA should not in any way be construed as an approval of the LPG installation. The MRA does not assume any responsibility and shall not be liable for any loss or damage whatsoever which may occur to the LPG installation.

## SECTION 1: RISK ASSESSMENT MATRIX

### Identify Hazards

(Examples of hazards are chemicals, electricity, electrical equipment and associated wires, water in pipes, working from ladders, etc.)

*Likelihood* and *Consequence Factors* (shown in sections 2 & 3 below) need to be established so that the risk category **LOW**, **MEDIUM** or **HIGH** may be assessed using a matrix:

**Table 1**  
**Risk Assessment Matrix**

		Consequence			
		Minor	Significant	Major	Catastrophic
Likelihood	Probable				Example: Old, unprotected metallic pipework entering into a basement below ground level
	Possible				
	Remote				
	Negligible	Example.: Recently installed outdoor, above ground pipework not associated with a building			

**Table 2**  
**Recommended Line of Action**

Risk	Recommended Line of Action
Low	A basic inspection plan should be drawn up that details relevant inspections and their frequencies. Ref to LPGA doc Annex
Medium	A more detailed inspection strategy needs to be developed. The frequency of relevant inspections is likely to be increase in order to ensure confidence in the integrity of the pipe is maintained.
High	A very detailed inspection strategy needs to be developed with a high frequency of inspections in order to ensure the integrity of the pipe is maintained. <ul style="list-style-type: none"> <li>• This may prove more resource intensive than the alternative option of replacing the pipework.</li> </ul>

## SECTION 2: HAZARD LIKELIHOOD FACTORS

### **2.1 The Location of the Pipework**

Location of pipework is above ground & easily seen & not liable to mechanical damage

**YES** Lower (Count = 0)

Location of pipework is below ground & out of sight or above ground and liable to mechanical damage

**NO** Higher (Count = 1)

### **2.2 The Operating Pressure of the Pipework**

Low pressure (<75mbar) (most pipework falls in this category) Lower (Count = 0)

Pressure above 75mbar Higher (Count = 1)

### **2.3 How long it has been in Service?**

New; less than < 15 years Lower (Count = 0)

Old or Unknown; more than > 15 years Higher (Count = 1)

### **2.4 Materials of Construction**

Corrosion resistant materials:

**Above Ground:** Painted, Galvanized or Sheathed Steel, Copper, Stainless Steel, Proprietary Systems

**Below Ground:** Polyethylene (PE), Sheathed Steel, Copper, Stainless Steel, Proprietary Systems, Cathodically protected Systems

From all above mark Lower (Count = 0)

Materials subject to corrosion (e.g. unprotected or incorrectly protected mild steel)

Materials subject to environmental degradation (e.g. unsheathed Polyethylene)

From all above mark Higher (Count = 1)

### **2.5 Traffic Passing over the Pipe or Ground Liable to Movement**

No traffic passing over pipework. Ground not liable to movement.

Lower (Count = 0)

Pipework under roadway, unknown protection, ground liable to movement.

Higher (Count = 1)

### **2.6 If there have been Excavations or Building near the Pipe**

No recent excavations/building

Lower (Count = 0)

Excavations/building within 3m of pipework without protection of the pipe.

Higher (Count = 1)

## **Likelihood Factors**

All the above should sum up into this table.  $\Sigma$  of 2.1 to 2.6 above.

Sum of factors	0	1	2	>2
<b>Overall Likelihood factor</b>	Negligible	Remote	Possible	Probable
<b>Examples</b>	New, correctly installed pipework		Old buried metal pipe work, PE exposed to UV	Old buried metallic pipework in corrosive conditions, showing signs of deterioration