Safety Information Sheet
Lifting Plans

Prepared by LEIA Safety and Environment Committee

INTRODUCTION

This Information Sheet is one of a series produced by the LEIA Safety and Environment Committee on topics relevant to the Lift and Escalator Industry. Whilst every effort has been taken in the production of these sheets, it must be acknowledged that they should be read in conjunction with the relevant legislation, codes of practice etc. They should not be taken as an authoritative interpretation of the law but as guidance to it.

LIFTING PLANS

The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) Regulation 8 requires that every employer shall ensure that every lifting operation involving lifting equipment is -

(a) Properly planned by a competent person;
(b) Appropriately supervised; and
(c) Carried out in a safe manner.

The Production of a Lifting Plan can ensure compliance to this legal requirement.

Lifting plans can be divided into two categories.

- Routine (no specific plan required)
- Special (more complex lifting, must be documented with a specific plan)

There are defined circumstances when a Lifting Plan must be written, but a written plan is recommended for all but the simplest, routine lifts. For routine lifting operations an initial plan may only be required once but you may need to review it occasionally to make sure that nothing has changed and this generic plan remains valid. Where two or more items of lifting equipment are used simultaneously to lift a load a written plan should be drawn up and followed. A written plan may also be required if your internal processes or your customer's processes require it.

WHO SHOULD PREPARE A LIFTING PLAN?

The employer shall ensure that every lifting operation involving lifting equipment is properly planned by a competent person. The competent person should have adequate practical and theoretical knowledge and experience of planning lifting operations.

Competence is not defined in the legislation, but can be described as someone with:

- Appropriate experience
- Sufficient and relevant training
- Suitable skills
- Aptitude for the task

The Guidance in the LOLER ACOP supports that simple individual lifts require those individuals with the relevant knowledge and experience to be able to assess and plan a lift. An individual with lifting and slinging training married with their ability to risk assess the lift is sufficient to meet the expectations of the regulations. (See Appendix 2 LOLER ACOP extracts).

INITIAL PREPARATION OF A LIFTING PLAN

A lifting plan needs to address the risks identified by the risk assessment and identify the resources required, the procedures and the responsibilities so that any lifting operation is carried out safely.

Initial planning requires the person preparing the plan to ensure that lifting equipment is suitable for the task taking account of:

- The load to be lifted
- Its weight, shape, centre of gravity, availability of lifting points
- Where the load is presently positioned and where it will be positioned after the lifting operation
- How often the lifting equipment will be used to carry out the task
- The environment in which the lifting equipment will be used
- The personnel available and their knowledge, training and experience.

DETAILED PREPARATION OF A LIFTING PLAN

For planning of lifting operation itself (a simple lifting operation may include the following):

- Assess the weight of the load
- Choose the right accessory for lifting, (nature and weight of the load, environment)
- Check the anticipated path of the load (no obstructions)
- Ensure visibility of the load during the lifting operation
- Prepare a suitable place to set down the load
- Fit the sling to the load (using an appropriate method of slinging, taking accout of the effect on SWL of the slinging method)
- Make the lift (a trial lift, raising the load a couple of centimetres may be necessary to settle the load and to test the centre of gravity)
- Complete the lift
- Release the slings
- Secure the load at its final destination
- Clear up.

STRENGTH AND STABILITY OF THE EQUIPMENT

The competent person should assess whether the lifting equipment and lifting points have adequate strength for the proposed use and that it will be stable in use.

FACTORS AFFECTING THE STRENGTH OF THE LIFTING EQUIPMENT

- Mounting or fixing points, types of lifting eyes, lifting points on loads etc.
- Wind (must be considered, although more applicable to tower cranes)
- Modifications to equipment
- Weight of accessories

FACTORS AFFECTING THE STABILITY OF THE LIFTING EQUIPMENT.

- The strength of the ground or surface under the crane or lifting structure and under the load and at the landing point taking into account any underground structures or services
- Whether the surface on which the lifting equipment operates is on a slope
- The size and nature of the load (e.g. whether the load itself is unstable)
- How the load is intended to be lifted
- Wind and other weather conditions

WHAT TO INCLUDE IN THE WRITTEN PLAN DOCUMENT

See pro-forma template in Appendix 1

- Details of method statement, risk assessment and controls
- Load – its weight (actual or assessed), size, centre of gravity (sketch if necessary).
- Lifting equipment and accessories to be used (type, SWL, examined)
- Lifting points
- Ground conditions
- Communication – type (radio, hand signals etc), difficulties (language)
- Lighting
- Path of the load (hazards)
- Method of slinging etc.
- Any requirement to work under suspended loads
- Use of handlines to control the load
- Access and emergency escape routes
- Competence of personnel
- Number of person required
- Pre-use inspections
- Permit to lift from Principal Contractor
- Number and duration of lifts
- Visibility of load throughout lift
- Control of any fall hazards at landing point.
- Other conflicting tasks
- Full briefing to all involved
- Debrief and learning

OTHER CONSIDERATIONS

Lifting equipment and accessories must have had a Thorough Examination and inspection and records kept and available:

- Lifting equipment (Installed) - Thorough Examination after installation/assembly and prior to first use; (e.g. built-in lifting beams)
- Lifting equipment (General) – Thorough Examination before being put into service at a new location
- Lifting equipment for Lifting Persons - Thorough Examination within the last 6 months;
- Lifting accessory (General) - Thorough Examination within the last 6 month
- Lifting equipment must be marked with its safe working load

FURTHER INFORMATION

Lifting Operations and Lifting Equipment Regulations (LOLER) 1998

Safe Use of Lifting Equipment: Approved Code of Practice and Guidance HSE L113

British Standards:

BS 7121-1:2006 Code of practice for safe use of cranes. General

BS 7121-2:2003 Code of practice for safe use of cranes. Inspection, testing and examination

BS 7121-3:2000 Code of practice for safe use of cranes. Mobile cranes

For any clarification of this information sheet contact your company Safety Advisor or the LEIA Safety and Training Manager.

APPENDIX 1
LIFTING PLAN EXAMPLE

Location		Permit Nº	
Area		Risk Assessment Nº	
		Method Statement Nº	
Diagram/ Sketch of lifting operation attached		Yes ☐	No ☐
Description of Lifting Operation			
Lifting Operation Category		Routine ☐	Special ☐
Weight of Load		Actual ☐	Assessed ☐
Lifting Equipment and Accessories to be used (type, SWL, coding)			
Task details (step by step)			
Method/s of communication to be used	Radio	Oral	Hand signals

Document Reference 48
Issue Nº 2
Revision Date 18/10/16
Next Review Date Oct 2019

APPENDIX 1
LIFTING PLAN EXAMPLE

Consider the following in preparation of task details: (not an exhaustive list)			
Details of method statement, risk assessment and controls		Weight of the load (actual or assessed)	
Ground conditions		Lifting points	
Lifting equipment and accessories to be used (type, SWL, examined)		Communication – type (radio, hand signals etc), difficulties (language)	
Load – weight, size, centre of gravity (sketch if necessary).		Lighting	
Path of the load (hazards)		Method of slinging etc.	
Working under suspended loads		Use of handlines to control the load	
Access and emergency escape routes		Competence of personnel	
Number of personnel required		Pre-use inspections	
Permit to lift from Principal Contractor Yes/ No		Number and duration of lifts	
Visibility of load throughout lift		Other conflicting tasks in the area	
Full briefing to all involved		Debrief and learning	
Control of fall hazards – before, during and after lifting operation			

Debrief and learning points

Prepared by		
Name	Signature	Date
Reviewed by		
Name	Signature	Date
Approved by		
Name Designated Supervisor of lift	Signature	Date

Guidance 7 LOLER

203 If the configuration of an accessory can affect the SWL, it should be clearly marked or a chart should be readily available providing the user with information on the SWL for each configuration.

204 You should mark lifting accessories with their own weight and any other characteristics that may be appropriate in particular circumstances, eg whether the accessory should only be used with one identified piece of lifting equipment or where its use can be affected by other factors such as heat or corrosive atmospheres. Furthermore, an accessory such as a plate clamp may need to be marked with the plate thickness range over which it can be safely used.

ACOP 7 LOLER

Regulation 7(d)

205 Any carrier should clearly display the maximum number of people it can carry.

Guidance 7 LOLER

206 Lifting equipment which is designed for lifting people must be appropriately and clearly marked that it is for lifting people. In addition, any carrier (eg a suspended personnel basket or car of a passenger lift) should clearly display the maximum number of people to be carried.

207 The SWL should also be clearly indicated on the carrier.

Regulation 7(e)

208 Lifting equipment which may be inadvertently used for lifting people but which has not been designed for this purpose should be clearly marked that it should not be used for lifting people.

Regulation 8 Organisation of lifting operations

Summary

Regulation 8(1) clarifies that each lifting operation needs to be planned, supervised and carried out safely.

Regulation 8(2) defines a lifting operation.

Regulation 8 LOLER

(1) Every employer shall ensure that every lifting operation involving lifting equipment is –

(a) properly planned by a competent person;
(b) appropriately supervised; and
(c) carried out in a safe manner.

(2) In this regulation "lifting operation" means an operation concerned with the lifting or lowering of a load.

ACOP 8

Regulation 8(1)(a)

209 The person planning the operation should have adequate practical and theoretical knowledge and experience of planning lifting operations.

ACOP 8

210 The plan should address the risks identified by the risk assessment and identify the resources required, the procedures and the responsibilities so that risks are managed and any lifting operation is carried out safely.

211 The plan should ensure that the lifting equipment remains safe for the range of lifting operations for which it might be used.

212 Where two or more items of lifting equipment are used simultaneously to lift a load, a procedure should be in place to ensure safety. Where appropriate this should be a written plan, drawn up and applied to ensure safety.

LOLER

Guidance 8

213 The lifting equipment referred to in paragraph 212 means, for example, two cranes lifting the same load. It does not mean the use of lifting accessories (eg two slings attached to the hook block of a single crane) used with a lifting machine.

214 Regulation 8(1)(a) lies at the heart of these Regulations. The risk assessment required by regulation 3(1) of the Management Regulations will identify the hazards and corresponding risks. The requirement for proper planning under these Regulations should therefore address how risks identified by this assessment will be eliminated or adequately controlled. Proper planning of lifting operations should ensure that not only is suitable equipment provided by dutyholders but also that it can be used safely.

215 The degree of planning will vary considerably. It will depend upon the type of lifting equipment to be used and the complexity of the lifting operation. A lifting operation should be planned before the lift is started and the plan should cover the whole of the process, including the disassembly of the lifting equipment where this is necessary, and should consider potential difficulties, eg weather changes. Proper planning of lifting operations is a combination of two parts:

(a) initial planning to ensure that lifting equipment is provided which is suitable for the range of tasks that it will have to carry out; and
(b) planning individual lifting operations so that they can be carried out safely with the lifting equipment provided.

216 The balance between the two parts of the planning process will vary depending on the lifting equipment and the particular lifting operation.

217 The term 'competent person' required to carry out the planning means the person must have the skills, knowledge, and experience to make the relevant assessment of the requirements of the lifting equipment being used and the type of task being carried out. It does not have the same meaning as, and is unlikely to be, the same competent person referred to in regulation 9 (thorough examination and inspection).

Initial planning

218 Regulation 4 of PUWER requires suitable work equipment to be provided for the task. There is therefore a close link between regulation 4 and this requirement for planning. Factors you should consider when selecting lifting equipment so that it is suitable for the proposed task include:

(a) the load to be lifted;
(b) its weight, shape, centre of gravity, availability of lifting points;
(c) where the load is presently positioned and where it will be positioned after the lifting operation;
(d) how often the lifting equipment will be used to carry out the task;

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(e) the environment in which the lifting equipment will be used; and
(f) the personnel available and their knowledge, training and experience.

219 The person carrying out this part of the planning exercise should have appropriate knowledge and experience.

220 You should use appropriate equipment for lifting particular types of loads, eg spreader beams for unbalanced loads. You may need to use specialist handling equipment in conjunction with forklift trucks, eg reel handling attachments if you are handling paper reels or similar loads.

Planning individual lifting operations

221 For routine lifting operations the planning of each individual lifting operation will usually be a matter for the people using the lifting equipment, such as a slinger, the forklift truck operator etc. The person carrying out this part of the planning exercise should have appropriate knowledge and experience and the organisation should have a simple plan, generic risk assessment and procedures in place to support them.

222 An example of a simple plan for routine use of an overhead travelling crane would be:

(a) assess the weight and size of the load;
(b) choose the right accessory for lifting, eg depending upon the nature and weight of the load and the environment in which it is to be used;
(c) check the anticipated path of the load to make sure that it is not obstructed;
(d) prepare a suitable place to set down the load;
(e) fit the sling to the load (using an appropriate method of slinging);
(f) make the lift (a trial lift may be necessary to confirm the centre of gravity of the load; tag lines may be necessary to stop the load swinging);
(g) release the slings (boards or similar may be necessary to prevent trapping of the sling); and
(h) clear up.

223 The same principles could be applied to other routine lifting operations involving other types of lifting equipment, eg forklift truck, use of an electric hoist etc.

224 For routine similar lifting operations you may have a standard plan but you should review it periodically to make sure that nothing has changed and the 'plan' remains valid. Examples of lifting equipment generally provided for routine lifting operations include:

(a) forklift trucks in a warehouse;
(b) a construction site hoist;
(c) a MEWP used for general maintenance;
(d) a suspended cradle used for window-cleaning;
(e) a vehicle tail lift; and
(f) a patient hoist.

225 For complex or non-routine lifting operations you should plan the task each time it is carried out.

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226 BS 7121 series of standards[9] contains recommendations for the safe use of cranes, including planning of lifting operations. In this series of standards the

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competent person for planning lifting operations is referred to as the appointed person. The principles contained in this series of standards can be applied to the use of other types of lifting equipment.

Regulation 8(1)(b)

227 The HSW Act (section 2(2)(c)) places a duty on employers to their employees for '*... the provision of such, information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees*'. These Regulations extend the duties on employers to other dutyholders listed in regulation 3(3).

228 Both LOLER and the HSW Act require appropriate supervision and as long as you provide this you will comply with both the requirements of the HSW Act and these Regulations.

229 'Appropriate supervision' means that it should be proportionate to the risk and take into account the personnel involved in the particular lifting operation such as those with disabilities and the inexperienced. Levels of supervision are determined by the nature of the work, and the competence of those involved in using the equipment and assisting with the lifting operation. It does not mean, for example, that an experienced forklift truck driver will have to be under direct supervision every time they carry out a routine lift (but they may need to be supervised if they are required to lift an unusual load), or that an occupier of an office block has to provide a person to supervise the operation of a passenger lift.

ACOP 8

LOLER

Regulation 8(1)(c) – working under suspended loads

230 Where practicable, loads should not be carried or suspended over areas occupied by people.

231 Where this is not practicable you should establish a safe system of work which minimises the risks to people who may need to be below the load.

232 Where it is necessary to leave loads suspended you should ensure that access to the danger zone is prevented and that the load has been secured properly.

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233 Regulation 8(1)(c) places a duty on you to ensure that lifting equipment is used safely. This can only be achieved if you have complied with the other regulations where they are relevant.

234 Where possible, you should organise the layout of the workplace so that no person will have to work under a suspended load. In some cases this is not possible, eg mechanics working under a car on a raised vehicle inspection lift. In such circumstances you should ensure that the workers are aware of the risks and that the equipment is properly maintained and thoroughly examined to ensure that it is safe to use.

235 Where the risks cannot be controlled by organising the layout of the workplace, other measures must be taken to protect people below the load to minimise the consequences if it falls. This may be a combination of reliance on equipment, for example by using lifting equipment with additional safety features (see guidance on regulation 6), ensuring a secondary means to contain the load should it begin to disintegrate or the provision of some form of overhead protection.

8.27 x 11.69 in