

# **Guidelines**

Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)

**REFERENCE: LG 2** 

ISSUE: 03

DATE: 01/02/18

DOCUMENT INFORMATION:		
REFERENCE:	LG 2	
ISSUE:	03	
DATE:	01/02/2018	
PREPARED BY:	PARED BY: Machinery Lift and Crane Technical Committee (TC 2)	
APPROVED BY:	PPROVED BY: TC 2	

# © The Safety Assessment Federation Ltd

All rights reserved. Except for normal review purposes, no part of this publication may be reproduced, utilised, stored in a retrieval system or transmitted in any form by any means electronic or mechanical, including photocopying, recording or by any information, storage or retrieval system without the written permission of the publisher.

# **CONTENTS**

NTRODUCTION 1		
AIMS	,	1
	REGULATION 8 - ORGANISATION OF LIFTING OPERATIONS	
2.	REGULATION 9 – THOROUGH EXAMINATION AND INSPECTION	5
3.	REGULATION 10 – REPORTS AND DEFECTS	11
4.	REGULATION 11 – KEEPING OF INFORMATION	12
5	OTHER REGULATIONS - SLIMMARY	13

#### **INTRODUCTION**

The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER), which came into force on 5th December 1998, were made under the Health and Safety at Work etc. Act 1974 (HSW Act). LOLER implements the lifting provisions of the Amending Directive to the Use of Work Equipment Directive (AUWED)1.

LOLER applies to all situations and premises covered by the HSW Act and builds on the requirements of the Provision and Use of Work Equipment Regulations 1998 (PUWER). It is important to note that in addition to complying with LOLER, persons that provide lifting equipment for use at work also need to comply with all applicable aspects of PUWER and any other relevant health and safety law.

Whilst LOLER only applies to lifting equipment provided for use at work, the safety of similar types of equipment in other non-work situations can be provided by following the same requirements of the Regulations (i.e. passenger lifts in shopping malls and in blocks of residential flats). In addition, due to their inherent risks, the Safety Assessment Federation (SAFed) recommends that escalators, which would normally be subject to the provisions of the Workplace (Health, Safety and Welfare) Regulations 1992, should in fact be subject to similar thorough examination provisions to those of LOLER.2

LOLER replaces most of the sectoral law relating to the use of lifting equipment. However, unlike the previous sectoral laws which were specific to particular types of lifting equipment, LOLER applies to all items of lifting equipment used at work. The measures needed to meet the provisions of LOLER for individual items of lifting equipment should be identified from the results of risk assessment carried out under The Management of Health and Safety at Work Regulations 1992 (as amended). A proportionate response to identified risks is required, in general trivial risks can usually be ignored. Separate guidance has been produced by SAFed which lists lifting equipment that SAFed recommends should be subject to the provisions of LOLER. Copies of this separate guidance3, which also specifies recommended maximum periods between thorough examinations, may be obtained from SAFed.

#### **AIMS**

The primary aim of these Guidelines is to assist users/owners of lifting equipment to understand and therefore to be able to comply fully with, the various provisions of LOLER. In addition, the guidance is aimed at identifying and explaining the types of service SAFed Member Inspection Bodies can provide in support of LOLER if contracted to do so.

Whilst the guidance concentrates on the planning, thorough examination, reporting and record keeping requirements (Regulations 8, 9, 10 and 11), brief information on all the other Regulations is also given.

A secondary but no less important aim of the guidance is to advise engineer surveyors employed by Inspection Bodies how to implement LOLER.

<sup>1 95/63/</sup>EC Amending Directive to the Use of Work Equipment Directive 89/655/EEC

<sup>2</sup> SAFed EMW Guidelines for the Safe Operation of Escalators and Moving Walks

<sup>3</sup> SAFed MLCCO3 Lifting Operations and Lifting Equipment Regulations 1998

#### 1. REGULATION 8 - ORGANISATION OF LIFTING OPERATIONS

This Regulation requires that consideration is given to the risks involved with all lifting operations, and that such operations are properly planned in order to ensure safe execution of the operation.

The planning of lifting operations should be undertaken by a person, or persons, competent in the task. Such persons would need to have sufficient understanding of the lifting operation and equipment to be used to enable them to formulate a plan and procedure.

The degree of planning will vary considerably, dependant on the type of lifting equipment used and the complexity of the lifting operation for which it will be used.

Proper planning of lifting operations will comprise two parts, a) initial planning and b) planning of the individual lifting operations.

A. **Initial planning**, needs to be establish a safe system of work to ensure lifting operations are properly managed, those involved are competent and the lifting equipment is suitable for the range of tasks that it will carry out.

The Safe System of Work should include:

Planning the lifting operation, including preparation of individual lift plans.

Selection and provision of suitable lifting equipment to undertake the task.

Site preparation including entry and or exit routes for lifting machines or the loads to be lifted, including any erection, dismantling or setting up arrangements that may be required.

The provision of Inspection, Maintenance, Thorough examination and testing, where necessary

The provision and supervision of properly trained and competent personnel having the necessary authority.

The safety of persons not involved in the lifting operation

Co-ordination and effective control of all crane movements and the coordination and effective control of all other activities in the area of the lifting operation.

B. **Planning of individual lifting operations** and the completion of the lift plan, so that each lift can be carried out safely with the lifting equipment provided.

For routine or basic operations the lift plan for each individual lifting operation may be a matter for the people using the equipment. This may be the case when the weight of the load can be simply established and there are no significant hazards within the working area or on the access routes.

For more complex lifting operations a documented lift plan will be requiredeach time the lift is carried out. This may be the case when complex loads orpersons are to be lifted, where 2 or more cranes are used to lift the load or wherethe operation is carried out at a location with exceptional hazards.

To enable a lift to be planned, supervised and carried out effectively the hazardsassociated with the load, the lifting equipment and the environment must be considered.

# Typical hazards may include:

Load hazards	Environmental Hazards
Uncertainty of the weight of the load	Rain, Ice, Snow, Wind, Lightning.
Position of the centre of gravity of the	Poor ground conditions, Groundsuction
load, unsecure load elements, fluid loads	
Location and integrity of lifting points, complexity of slinging arrangements,	Partially obscured load path, Partially secured load,
High surface area or other drag factors Other dynamic factors e.g. lifting floating load	Adjacent Cranes or other items of plant, presence of Walkways, Roadways, Railways, Waterways, Power Lines, Public places, Airports.
Load condition, stability, fragility, shape	Corrosive atmospheres
e.g. sharp edges	
	Industry specific e.g. Petrochemical, Nuclear
Lifting People	

Further guidance is provided in BS7121 part 14 which contains recommendations for the management and planning of crane lifting operations, but can be applied to other lifting equipment.

Supervision of the lifting operation should be at a level commensurate with the identified risks, and undertaken by persons competent in the task. Such supervision would be considered when lifting a sensitive load or to compensate for the inexperience of operatives.

To assist clients to comply with the regulatory requirement, SAFed Member Inspection Body Companies could provide the following:

- Formulate a safe system of work or a lift plan on behalf of a client.
- Audit a client's own in-house plan.
- Audit the implementation of method statements and operational procedures.
- Assess the fitness for purpose of the lifting equipment.

<sup>&</sup>lt;sup>4</sup> BS 7121;1 Code of Practice for the Safe Use of Cranes. Part 1 General

# 2. REGULATION 9 - THOROUGH EXAMINATION AND INSPECTION

# **Thorough Examination**

**Initial Thorough Examination** 

LOLER places a responsibility on the duty holder to ensure Lifting Equipment receives a Thorough Examination at key points during its life.

Regulation 9(1) requires all lifting equipment receives a thorough examination by a competentperson prior to being put into service for the first time within a workplace. However, if the lifting equipment is accompanied by an EC Declaration of Conformity<sup>5</sup> which was issued less than twelve months previously, then this initial thorough examination made under regulation 9(1) will be considered satisfied.

Note: If an Inspection Body is requested to thoroughly examine new lifting equipment under LOLER Regulation 9(1), and the equipment falls under the auspice of EU supply legislation such as SMR but no Declaration of Conformity/Incorporation is available, then it should indicate this fact within the report of thorough examination, that the equipment be withdrawn from service and the matter be referred to the supplier or manufacturer.

Regulation 9(2) deals with lifting equipment were safety depends on the installation conditions. If the way in which lifting equipment is installed or relocated could adversely affect its safety, then a thorough examination in accordance with Regulation 9(2) must be carried out following such an installation or relocation to a new site or position and before being put into service, this to ensure it has been installed correctly and is in fact safe to use.

Any change to the installation affecting its safety would also require a further thorough examination before the item could be taken back into service (e.g. increasing the height of a tower crane, modifying the gantry upon which an overhead travelling crane runs).

Note; Certain types of lifting equipment whose safety could be jeopardised by unsafe installation may be installed or relocated on a frequent basis, e.g. scaffold jib crane or the erection or reconfiguration of amobile crane. In these instances, the owner, or his employees as necessary, must have sufficient competence to undertake an appropriate thorough examination required by this regulation. The requirements relating to records would still need to be complied with each time the installation was moved.

The scope of these 'initial' through examinations is to confirm, if such be the case, that the equipment is in fact 'safe to use', when used for the purpose for which it was designed and in accordance with manufacturer's instructions. Since this thorough examination is required to ensure that the item is safe to operate, it may be necessary to undertake some testing to confirmstrength, stability and other elements of safe working.

*Note;* Should an Inspection Body require a test or tests to be carried out prior to acceptance of the itemof lifting equipment, any test load applied should be agreed with the manufacturer or his representative ensure that forces for which the item was not designed are not applied.

It should be noted that the manufacturer is not required to state the test loads applied within any Declaration of Conformity or Incorporation.

<sup>&</sup>lt;sup>5</sup> New lifting equipment is required under the Supply of Machinery (Safety) Regulations (SMR) 1992 as amended 2008, and the Lifts Regulations 1997, as amended 2016 to be accompanied by an EC Declaration of Conformity or Incorporation.

# **In-Service Thorough Examinations**

Having considered whether lifting equipment is actually 'safe to use' by virtue of Regulation 9(1) and or 9(2) of LOLER, lifting equipment owners should thereafter consider the in-service requirements of Regulation 9(3). Regulation 9(3) requires all lifting equipment that can 'deteriorate to a dangerous situation' be thoroughly examined periodically to ensure the lifting equipment remains 'safe for continued use'.

Lifting equipment should be subject to assessment that considers the environment in which theequipment is used, its condition, what it is used for and how often it is used. In short, an analysis of foreseeable deterioration of a lifting system or component should be measured the hazards arising if the equipment were to fail in service.

Some Lifting equipment pose only trivial risks should failure occur. e.g. lifting equipment contained within parts of a more complex machine or in physical locations where failure could not endanger persons under both operational and maintenance conditions, may not require a thorough examination.

However, most lifting equipment would pose a significant risk if it failed in service. When used in ordinary environments and at normal utilisation rates periodic thorough examinations at the frequencies prescribed in LOLER are considered reasonable.

It is worthy of note, the competent person undertaking the thorough examinations may take the view that more frequent examinations than those prescribed are required due to the operating conditions, the utilisation rate or the high consequential risk in the event of failure.

Therefore, all lifting equipment which could endanger persons under either operational or maintenance conditions due to deterioration in use should be thoroughly examined so that suchdeterioration can be detected in sufficient time to allow remedial action to be taken.

Where lifting equipment can suffer deterioration which could lead to an unsafe condition then:

The lifting equipment must be thoroughly examined at least every six months if lifting persons or if deemed an accessory for lifting. All other lifting equipment should be subject to thorough examination at least every twelve months

OR

The thorough examinations may be carried out in accordance with an examination scheme produced by a competent person

*Note:* SAFed has published specific guidance on the subject, MLCC003<sup>6</sup> provides information on the type of equipment and suggest frequency in service examination should be carried out.

The document highlights some groups of lifting equipment containing inherent risks and suggests these items be thoroughly examined at an increased frequency to that indicated in LOLER. A typical example is a motor vehicle lifting table which SAFed recommends should be thoroughly examined at least every 6 months, although in many cases such lifts only lift cars, it is a fact that persons continually work below the load, hence the inherent risk to persons should catastrophic failure occur and increased examination frequency to control such a danger.

<sup>&</sup>lt;sup>6</sup> SAFed MLCCO3 Lifting Operations and Lifting Equipment Regulations 1998

#### **Examination Scheme**

The duty holder under the law may elect for periodic thorough examination at prescribed interval or consider some fundamental principles of risk assessment with a view to analysing foreseeable rate of deterioration and managing the risk with a bespoke examination regime.

Under all circumstances matters such as the environment in which the equipment works, the nature and size of the loads lifted, how often lifting occurs, the condition of the equipment itself are all matters that have a direct effect on foreseeable deterioration and the frequency examinations, or part examination, testing and other checks may need to be carry out.

Other factors may also need to be considered such as hazards associated with:

- Specific operating environments pertaining to the lifting equipment.
- Repeat utilisation and duty of the lifting equipment.
- Operator's training and overall competence
- Maintenance regimes.
- Prolonged periods of in-activity
- Historical evidence of performance, utilisation and repair.

Where the period between thorough examinations is to be extended, an examination scheme should be drawn up by an appropriate competent person. Should any changes to the operatingconditions occur subsequently, then the examination scheme will need to be reviewed for adequacy under the new conditions. An examination scheme does not have to be a physical document but should be capable of being produced in hard copy if required. The examination scheme may specify certain supplementary tests or investigations necessary to identify any potential defects.

# **Testing**

Testing of lifting equipment should be undertaken at the discretion of the competent person when required to support his examination(s).

A thorough examination may identify a shortfall in the integrity of the lifting equipment, in order to ensure continued safe use and complete the thorough examination, testing may have to be undertaken. There may also be a specific requirement with regard to safety, such as calibration of the Rated Capacity Indicator (previously known as the Automatic Safe Load Indicator - ASLI). The competent person may have doubts as to the effectiveness of any part of the system and, in order to verify safety, may require such testing.

Any tests which may be considered, are not restricted to any particular or specific category; they could be:

 Functional and operational envelope tests to verify the satisfactory working range of the lifting equipment.

- Load testing to confirm the build quality and structural load bearing capability of the lifting equipment.
- Structural integrity testing of safety critical components and major load path items (i.e. Non-Destructive Examination).
- Electrical integrity testing.

Any tests carried out should be in accordance with manufacturer's advice and recommendations, relevant design codes and standards pertaining to the item of lifting equipment. General guidance on the supplementary testing of lifts may be found in SAFed Guidance note Lift Guidelines<sup>7</sup>. General guidance on the testing of cranes can be found in BSI7121 Safe Use of Cranes Part 2.1 General<sup>8</sup>, and its sub parts.

The necessity for testing may be decided by a competent person's assessment or at the duty-holder's request

Regulation 9(3) also requires a thorough examination to be carried out whenever exceptional circumstances which could jeopardise the safety of lifting equipment have occurred, e.g. overloading or substantial modification or repair, a thorough examination should take place.

# Persons 'Competent' to carry out Thorough Examinations

Owners of lifting equipment have a duty to ensure that they employ "competent persons" to undertake thorough examinations as detailed in LOLER. In this context a "Competent Person" is:

A person that has such appropriate practical and theoretical knowledge and experience of the lifting equipment to be thoroughly examined as will enable them todetect defects or weaknesses, and to assess their importance in relation to the safetyand continued use of the lifting equipment.

The competent person carrying out the examinations should also be sufficiently independent and impartial to allow objective decisions to be made.

The term "competent person" refers not only to the individual employee who carries out the duties under the Regulations, but also to the Company employing them.

A way of ensuring the competence and independence of persons to carry out thorough examinations of lifting equipment, is to employ an Inspection Body holding Accreditation to BS ISO 17020 as employing those deemed authorised to undertake such examinations.

However, should employers and others within their own organisations have the necessary competence, then they can carry out the work themselves. If they do, they must ensure that their "in-house" examiners have the genuine authority and independence to ensure that examinations are properly carried out and that the necessary reporting actions arising from them are made without fear or favour.

<sup>&</sup>lt;sup>7</sup> LG1 SAFed Guidelines – Lifts – Guidelines on the Supplementary Tests of In-service Lifts

<sup>8</sup> BS 7121-2-1:2012 Code of practice for the safe use of cranes - Inspection, maintenance and thorough examination – General

Therefore, the person undertaking the thorough examination should not normally be the same person who maintains or repairs the equipment. This to ensure clear independence between the thorough examination and maintenance and to avoid an individual examining his own work.

### **Inspections between Thorough Examinations**

Regulation 9(3)(b) requires that the Owner/User arranges for inspections to be carried out inthe intervals between thorough examinations whenever:

Lifting equipment is exposed to conditions causing deterioration and where the owner/user's risk assessment has identified that there is a significant risk to the operator or other persons from the use of the lifting equipment, which would be addressed by regular inspection.

Whilst the purpose of the in-service thorough examination is to establish the presence of defects that pose a danger, the main reasons for an inspection is to ensure that the equipment is kept in a good state of repair, such that the health and safety conditions are maintained, and that any deterioration can be identified and remedied in good time.

The inspection could include, for example: visual checks, functional tests, checks for component security, calibration and may be carried out daily, weekly, or at other intervals depending on the severity of use or deterioration anticipated. Guidance is often provided by the manufacturers of lifting equipment and their instructions should be used and incorporated into appropriate "planned maintenance/inspection" schemes.

The records of these inspections and any remedial work actioned should be made available to the competent person carrying out the thorough examination, who may not be the person involved in these inspections.

Persons authorised to carry out these inspections should have sufficient knowledge and experience to detect damage or faults resulting from deterioration and to carry out any tests needed during the inspection to establish that the equipment is working safely and is structurally sound. They should also be capable of carrying out the appropriate reporting procedures needed to initiate remedial actions.

The level of competence required will vary according to the type of equipment and the extent of inspection skills needed to determine the condition of that equipment. Where the level of competence is not available 'in house', then the assistance of another body with the relevant competence will be necessary.

### Services that SAFed Member Inspection Bodies can provide

SAFed Member Inspection Body Companies are able to offer the following services to ownersof lifting equipment which, if fully implemented, will ensure that the requirements of Regulation 9 are complied with:

- Provision of technical advice-Identification and specification of lifting equipment which requires a thorough examination:
  - o at installation or at every relocation;
  - o n initial use, where installation affects safety;

- periodically throughout its working life;
- o after an exceptional circumstance.

# • Thorough Examination-As required by the regulations:

- during installation
- before first use
- o after relocation
- o periodically throughout its working life
- o after an exceptional circumstance

#### Examination Scheme

Provide advice on the appropriate examination system required. Provide a lifting equipment "Examination Scheme" after undertaking a suitable a risk assessment, should this be the preferred route, such an assessment should include the provision forperiodic review and unplanned review due to changes in the lifting equipment or its use.

# EC Declaration of Conformity

Provide advice on whether an EC Declaration of Conformity is required and check that such documentation is in the owner's possession.

# 3. REGULATION 10 - REPORTS AND DEFECTS

This regulation specifies the thorough examination reporting requirements; they apply equally to lifting equipment and accessories.

In all cases after completing a thorough examination, the competent person should, within a period of 28 days, make an authenticated report to the employer and any person from whom the lifting equipment has been hired or leased.

Additionally, where the thorough examination reveals any defect which **is or could become** a danger to persons, the employer and/or the person in control of the lifting operation is to be notified forthwith. Whereas LOLER does not state that this report be in writing, providing written notification is standard practice amongst SAFed Member Inspection Body Companies.

Where the defect poses an existing or imminent risk of serious personal injury a copy of the thorough examination report will be sent to the relevant enforcing authority. These circumstances differ from those above where immediate notification to the employer includes 'specified time' repairs. This may not necessarily apply to all defects traditionally classed as 'immediate', unless an imminent risk of serious personal injury is possible, bearing in mind that the future use may be unknown. Within these limitations, the regulations apply to both the lifting machine and accessories.

These reporting requirements are to be applied even when the lifting equipment or accessory is scrapped, removed from service or repaired immediately.

Schedule 1 of LOLER details the information to be contained in reports of thorough examination. One such item of information to be included for thorough examinations undertaken after installation, where the safety of the lifting equipment depends on the installation, is "that it has been installed correctly and is safe to operate". In order to make such a statement it may, under certain circumstances, be necessary for the competent person undertaking the thorough examination to be present during the installation of the equipment.

# 4. REGULATION 11 - KEEPING OF INFORMATION

#### **Record Retention**

Where an EC Declaration of Conformity or Declaration of Incorporation is obtained with liftingequipment in accordance with the Supply of Machinery Regulations or the Lift Regulations then the owner should retain this document for the life of the equipment (Regulation 11(1)).

A copy of the initial thorough examination report, made under Regulation 9(1), should be keptby the owner for the life of lifting equipment. (Regulation 11(2) a(i))

A copy of the first thorough examination report for lifting accessories should be kept for two years after that examination (Regulation 11(2) a(ii)).

It is possible for the owner to request another body to hold these documents on his behalf providing that they can be readily accessed for the information of an enforcing authority or other bodies entitled to ask for them. This may be undertaken by the Inspection Body on behalfof clients, particularly if it can be held electronically.

Following an initial thorough examination, including tests as necessary, carried out to confirmsafety of newly installed or relocated lifting equipment, a report will be issued by the competent person carrying out such thorough examination. The report should feature the information detailed in LOLER Schedule 1; particular attention should be made to ensure that the report contains the information specified in section 6 of the Schedule. If the initial thorough examination included any tests, then the test loads applied should be recorded in this section. The owner is required to retain this report until the item is removed from that location at which the examination took place (Regulation 11(2)(a)(iii).

At the time of the first thorough examination following installation/relocation, a copy of the initial installation report should be made available to the inspection body to enable it to confirmthat such an examination has been carried out.

Any report of thorough examination made under the requirements of Regulation 9(3) should be retained for two years or until the time the next report is received whichever is the longer period. The report may be in electronic form but should be capable of being produced as hardcopy and it should contain the prescribed information detailed in Schedule 1 of LOLER.

# 5. OTHER REGULATIONS - SUMMARY

Whilst the foregoing information is concerned with the interpretation and implementation of Regulations 8, 9, 10 and 11, the following is a summary of the remaining Regulations:

#### Regulation 1

This Regulation gives the implementation date as 5<sup>th</sup> December 1998

# Regulation 2

This Regulation details the interpretation of LOLER and includes a number of important definitions, they are as follows:

An "accessory for lifting" is defined as "work equipment for attaching loads to machinery for lifting"

(Note: This includes all items commonly referred to as "lifting tackle" (chain slings, rope slings, shackles, eyebolts, etc.) along with items such as lifting beams, magnets and grabs.)

"Lifting equipment" is defined as "work equipment for lifting or lowering loads and includes its attachments used for anchoring, fixing or supporting it"

(Note: All the types of equipment which were covered by the previous sectoral legislation (lifts,cranes, pulley blocks, etc) are included in this definition, but items such as fork lift trucks, motor vehicle lifting tables, mobile elevating work platforms, suspended access equipment andvehicle tail lifts, now also need to be considered under LOLER)

A "lifting operation" is defined as "an operation concerned with the lifting or lowering of a load" and a "load" includes a person.

# Regulation 3

This Regulation covers the LOLER application, and details where they apply and on whom the requirements are imposed.

The Regulations apply throughout Great Britain and wherever the HSW Act applies.

i.e. wherever work is done by the employed or self-employed, except for domestic work in a private household. They apply to all employers (including those who choose to allow their employees to provide their own lifting equipment), the self-employed and employers who have some control of lifting equipment or its management or the way it is used. (e.g., crane hirers, and employers who provide lifting equipment for use by others working on their premises)

# Regulation 4

This Regulation states that the strength and stability of lifting equipment should be adequatefor the task for which the equipment is intended.

The load itself or any points provided on the load to assist in lifting it (e.g. lifting lugs temporarily welded to a steel beam or lifting lugs on a skip) should be of adequate strength forthe task.

# Regulation 5

The purpose of this Regulation is to consider lifting equipment for lifting persons. It requires that carriers such as lift cars be fitted with interlocked doors and be protected by an enclosure. Lifts complying with previous legislation will meet the requirements of this Regulation.

Carriers which are not fully enclosed, for example mobile elevating work platforms, should be such that the risks to persons from being crushed, trapped or struck, or falling from the carrier, are prevented so far as is reasonably practicable.

Devices, such as safety gear on lifts, check valves on hydraulic equipment or suspension ropes/ chains with a high factor of safety, should be provided to prevent the risk of a carrier failing in the event of failure of the primary means of support.

In the event of malfunction of the lifting equipment, persons being lifted should not be exposed to danger and should be able to summon help and be rescued safely.

Regulation 5 also deals with mine winding gear which, for reasons inherent in the site and height differences, cannot be fitted with suitable devices to prevent the risk of a carrier falling. In such cases the carrier suspension rope or chain should have an enhanced safety co-efficient and should be inspected by a person competent to do so, every working day. Compliance with the Mines (Shafts and Windings) Regulations 1993 should satisfy the requirements of LOLER.

# Regulation 6

Regulation 6 requires all lifting equipment, fixed or mobile, be positioned and installed insuch a way as to minimise the risk to persons.

Special attention should be given to the possibility of the lifting equipment or the load striking a person. Specific safeguards should be established to prevent the load drifting, falling freely or being released unintentionally.

Fixed equipment should be installed to ensure loads are not lifted over people and that loadsand carriers moving along fixed paths, as is the case with conventional lifts or hoists, are suitably guarded to ensure persons in the vicinity are not crushed, struck or at risk of fallingdown a shaft or hoistway.

Mobile Equipment must by positioned to minimise the risk of persons in the vicinity becomingtrapped or crushed due to movement of the machine or load brought about through a travellingor slewing function.

### Regulation 7

This Regulation considers the marking of lifting equipment and requires that machinery and accessories for lifting loads are clearly marked to indicate their safe working loads.

There is a requirement that equipment designed for lifting persons be appropriately marked.

There is also a requirement that lifting equipment which has not been designed for lifting persons, but which may be inadvertently used for this purpose, be clearly marked to indicate that it should not be used for this purpose.

# Regulation 12

Regulation 12 states the exemptions for the armed forces and allows the Secretary of State for Defence to exempt any home forces, visiting forces or any headquarters from the requirements of the Regulations, where this would be necessary in the interests of national security.

# Regulations 13, 14, 15, 16 and 17

These Regulations note amendments, repeals and revocations of the requirements of earlier sectoral legislation (such as the Factories Act 1961) relating to lifting equipment replaced by LOLER.