

LIFT AND ESCALATOR
INDUSTRY ASSOCIATION



Guidance on the management of lifts, escalators and similar products





This Guidance has been prepared by the Lift and Escalator Industry Association with the aim of assisting those concerned on the legislative and other requirements which affect lifts, escalators and similar products.

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This document is based upon the best knowledge available to the authors at the time of publication. However, no responsibility of any kind resulting from the use of this guidance can be accepted by the authors or others involved in its publication.

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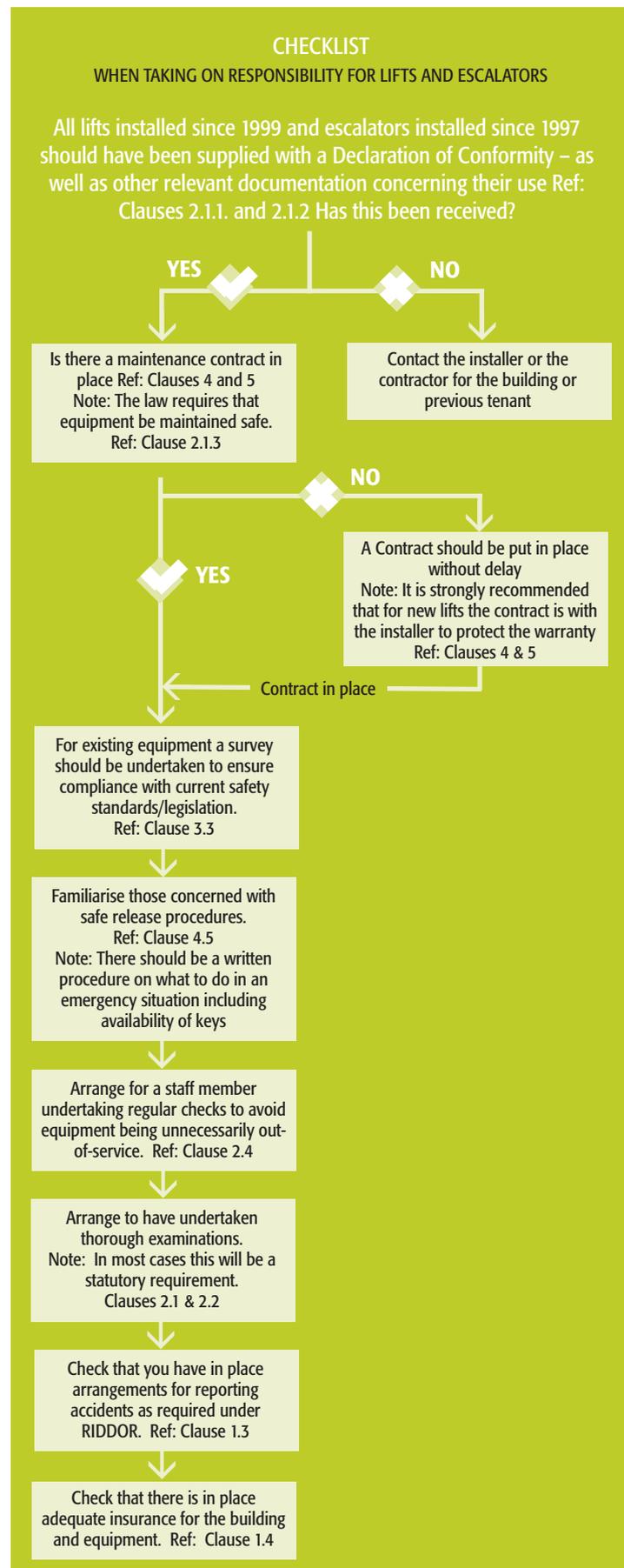
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Introduction

Lifts and escalators are among the very few modes of transportation available for continuous unsupervised use by all persons from the very young to the elderly and infirm. Despite this they are amongst the safest form of travel.

British/European Standards impose strict and comprehensive safety requirements and equipment is thoroughly checked and tested before being put into service. Nevertheless, there are matters which should be observed and this guidance document is intended to assist those with responsibility for the maintenance of lifts and escalators in understanding the many legislative requirements.

Despite great care taken to ensure the safety of users, service personnel and inspectors it is essential that equipment is regularly checked and properly maintained and that any such work is entrusted only to competent persons with the relevant specialist knowledge. A duty of care placed upon lift owners makes it a legal requirement to ensure lifts and escalators are maintained to a safe standard



1.0 Duties and responsibilities

→ 1.1 General duty of care

Both employers and employees have a duty of care in relation to the health and safety of people or property which may be affected by their actions, or failure to act. Therefore, building owners, or those who have responsibility for controlling buildings are required under the Health and Safety at Work etc. Act to ensure that their premises are safe and free from risk to health, so far as is reasonably practicable. This includes access to the premises and plant, articles and substances used and in this particular respect the Workplace (Health, Safety and Welfare) Regulations will be relevant.

The Management of Health and Safety at Work Regulations require that every employer make an assessment of the risks to the health and safety of his employees and those not within his employment who might be affected by the conduct of his undertaking.

Lift contractors have a duty as employers to ensure those in their employment are not exposed to health and safety risks from their business activities, so far as is reasonably practicable.

Although there is no requirement for a lift contractor to inform a building maintenance manager of changes in codes of practice or legislation, there falls to both parties a responsibility under the Health and Safety at Work etc Act and under both criminal and civil law to provide safe plant and equipment, safe systems of work, adequate information, instruction, training and supervision and failure to do so may render those concerned in breach of criminal and/or civil law.

→ 1.2 The Law

There is considerable legislation and guidance which applies to building services, plant and equipment and which covers the responsibilities of employers and their employees in respect of health and safety.

Where the law of statute is concerned there are a number of statutory instruments which might apply. Reference to the most relevant is contained within this Guidance, including the Provision and Use of Work Equipment Regulations 1998 (PUWER) and the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). The Health and Safety at Work etc Act 1974 is always relevant.

The specific provisions of the PUWER and LOLER are covered later, but it is the Health and Safety at Work etc Act that is by far

the most significant of health and safety legislation. It covers many general duties, placing responsibilities on employers, directors and managers as well as individual employees.

It should also be appreciated the law provides that a Health and Safety Executive Inspector or local authority Environmental Officer, as appropriate, may serve an Improvement or Prohibition Notice on an employer where the safety of equipment might be in question.

In addition to the above there is significant European based health and safety legislation, as a consequence of European Union Directives transposed into national law.

→ 1.3 Reporting of accidents

There is a legal requirement to report certain types of injury by virtue of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR). All fatalities or incidents involving serious injury at work must be reported as soon as possible.

There must be reported –

- deaths
- major injuries
- over-3-day injuries – where an employee or self-employed person is away from work or unable to perform their normal work duties for more than 3 consecutive days
- injuries to members of the public or people not at work where they are taken from the scene of an accident to hospital
- some work-related diseases.

There should be a nominated person who will fulfil these obligations.

Certain types of dangerous occurrences are also reportable, especially where load bearing parts of lifts have unexpectedly failed, even if no injuries have resulted.

→ 1.4 Insurance

Both building owner and lift maintenance contractor have a responsibility to carry insurance.

Insurance can cover damages awarded by the civil courts but insurance is not available against penalties imposed under criminal law. This applies equally to the building owner and the lift maintenance contractor.

It also needs to be borne in mind that any insurance policy may well include 'exceptions to cover.'

2.0 Statutes and Guidance

→ 2.1 Statutory requirements

2.1.1 The Lifts Regulations 1997

These Regulations introduced in 1997 became mandatory from 1st July 1999 and apply to all new lifts placed upon the market from this date. The Regulations enact a European Directive aimed at harmonising requirements for lifts and at the same time setting minimum standards of safety throughout the European Union.

Compliance with the Regulations is deemed to be fulfilled where the lift installation is in accordance with an approved Harmonised Standard and in such event the lift installer is authorised to inspect, test, affix the CE marking and issue the necessary Declaration of Conformity – always providing he has been independently certificated in accordance with ISO 9001 as required under the Regulations. Should this not be the case the installation is required to have third party approval by a Notified body.

The CE marking, which will be affixed in the lift car, is an indication of compliance with the Regulations and that the installation has undergone the appropriate conformity assessment procedures.

The Lifts Regulations apply only to new lifts installed after 1st July 1999, they are not retrospective in application. However at the time the European Directive was approved Recommendations were made for improving safety standards of existing lifts. (See 2.3.2).

Note: New Regulations come into force on 29 December 2009 (The Supply of Machinery (Safety) Regulations 2008) which amend The Lifts Regulations. The main change being to exclude from The Lifts Regulations lifting appliances whose speed of travel is not greater than 0.15m/s.

2.1.2 The Supply of Machinery (Safety) Regulations 1992

The Supply of Machinery (Safety) (Amendment) Regulations 1994

The Supply of Machinery (Safety) Regulations 2008

These regulations apply to new machinery when placed upon the market, the original Regulations having effect from 1 January 1993. The Regulations enact European Directives aimed at harmonising requirements for machinery and at the same time setting minimum standards of safety throughout the European Union.

The Regulations cover a wide range of machinery including Vertical Lifting Platforms, Stairlifts, Escalators and Moving Walks, whereas 'conventional' lifts remain within The Lifts Regulations.

Compliance with the Regulations is deemed to be fulfilled where the machinery is in accordance with a Harmonised Standard which satisfies the relevant essential health and safety requirements within the Regulations. Where the Harmonised Standard route has not been followed other criteria will apply which may include conformity assessment by a Notified body.

The CE marking, which will be affixed to the machinery is an indication of compliance with the Regulations and that the equipment has undergone the appropriate conformity assessment procedures. The machinery should be supplied with a Declaration of Conformity as well as the manufacturers' instructions for use.

From 29 December 2009 the new Regulations will come into force. A significant change where lifting appliances are concerned is the exclusion from The Lifts Regulations of equipment whose speed of travel is not greater than 0.15m/s, such equipment then falling within the scope of the new Machinery Regulations.

2.1.3 The Provision and Use of Work Equipment Regulations 1998 (PUWER 98)

These Regulations came into force on 5th December 1998, they apply to both new and existing work equipment and replaced Regulations under the same title dated 1992.

The lift owner either as the employer of those using the lift or as the person employing the services of those undertaking the maintenance of the lift, has a responsibility for ensuring its suitability for the work to be undertaken.

Work Equipment means any machinery, appliance, apparatus, tool or installation for use at work. There is an apparent anomaly in the requirements in that where a lift is primarily for the use of members of the public, for example in a shopping centre, it is not subject to the Regulations as it is not considered to be 'Work Equipment'. However, the owner of such a lift still has to satisfy the requirements of the Health and Safety at Work etc Act and it is stated such requirements should be satisfied by compliance with these (PUWER 98) Regulations. The same can be said for the requirements of the Lifting Operations and Lifting Equipment Regulations (see 2.1.4).

As may be seen therefore PUWER 98 cannot be read in isolation. The Regulations need to be considered together with other statutory duties which will also include the Management of Health and Safety at Work Regulations 1999 to which reference was made in the previous section. Risk Assessment is the method to be used in the selection of suitable work equipment and work procedures taking into account the tasks to be undertaken and conditions of use.

PUWER 98 Regulation 5 requires every employer to ensure that work equipment is maintained in an efficient state, in efficient working order and in good repair. 'Efficient' the word used in the Regulations actually relates to the condition of the equipment and how it might affect health and safety. It is important therefore that equipment is maintained so that its performance does not deteriorate to the extent that it puts people at risk. Maintenance should only be undertaken by those who have received adequate information, instruction and training.

Whilst it is not practicable to detail specific requirements under PUWER 98 which might relate to lift applications – these can vary according to circumstances – a good example would be guarding of dangerous parts of machinery. The Health and Safety Executive (HSE) definition of a dangerous part is any piece of

work equipment that when used in its foreseeable way can cause injury. The main parts of lift equipment to be guarded could, dependant upon the results of a risk assessment, include traction sheaves, multiplying and diverter pulleys, fixed flywheels and exposed rotating safety governor sheaves.

2.1.4 The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)

Like the previous item these Regulations came into force on 5th December 1998 and stem from the same European Directive as PUWER which itself was amended in 1995.

The main feature of LOLER – so far as lifts that carry persons are concerned – is the undertaking of a thorough examination at least every six months, or in accordance with a written scheme. In the case of goods only lifts, thorough examinations are to be undertaken at least every twelve months or in accordance with a written scheme. The thorough examination should be undertaken by a competent person. A competent person is defined within the LOLER Approved Code of Practice (ACoP) as someone who "has such appropriate practical and theoretical knowledge and experience of the lifting equipment to be thoroughly examined as will enable them to detect defects or weaknesses and to assess their importance in relation to the safety and continued safe use of the lifting equipment". Under LOLER, the term thorough examination includes, where necessary, testing. During a thorough examination the competent person has to decide whether a test is necessary.

The Regulations set down the required information to be contained in a report of a thorough examination which includes the following:-

- 1 the name and address of the employer for whom the thorough examination was made.
- 2 the address of the premises at which the thorough examination was made.
- 3 particulars sufficient to identify the equipment and where known its date of manufacture.
- 4 the date of the last thorough examination.
- 5 the safe working load of the equipment.
- 6 in relation to the first thorough examination, that the equipment has been installed correctly and is safe.

- 7 identification of any part found to have a defect which is or could become a danger to persons;
particulars of any repair, renewal or alteration required to remedy any such defects;
in the case of a defect which is not yet but could become a danger to persons – the time by which it could become such a danger and particulars of any remedial work necessary;
the latest date by which the next thorough examination must be carried out;
where the thorough examination included testing, particulars of any test;
the date of the thorough examination.
 - 8 the name, address and qualifications of the person making the report;
whether he is self-employed or, if employed, the name and address of his employer.
 - 9 the name and address of a person signing or authenticating the report on behalf of its author.
 - 10 the date of the report.
- Please note the above is not word-for-word the text within the Regulations but covers substantially the requirements.
- See also following item on the Supplementary Tests of In-Service Lifts.

→ 2.2 Safety Assessment Federation Guidelines

SAFed Guidelines on the supplementary tests of in-service lifts

This guidance details a selection of recommended examinations which are designed to supplement and support where appropriate, the thorough examination undertaken by a competent person as required by LOLER Regulation 9.

Although published by the Safety Assessment Federation Ltd (SAFed), the guidance was produced by an industry Working Group chaired by the Health and Safety Executive (HSE). The Guidelines are fully supported by HSE and hold similar status to those of the earlier lift guidance (LG1). They represent best practice and if followed will normally be regarded as sufficient to comply with health and safety law.

The Guidelines on the supplementary tests of in-service lifts replaced LG1 with effect from 2nd February 2006. The examinations and tests detailed within the revised Guidelines are more comprehensive than the previous version which has now been withdrawn.

It is important to appreciate that it is the duty and responsibility of the employer (lift owner) to have their lift(s) thoroughly examined as required by Regulation 9 of LOLER. It is also the duty of the employer (lift owner) to employ a competent person to undertake such thorough examinations.

The need for any supplementary examinations and tests to be undertaken will invariably be decided by the competent person

undertaking the statutory thorough examination. The competent person will make the decision on what particular examinations and tests are required using as a basis the results of a risk assessment of the lift. Where recommended periodicities are suggested in the guidelines, these are not absolute and some variation may be applied depending on factors included in the risk assessment concerning the condition, use and environment of the lift.

Competent persons from independent inspection companies (including SAFed members), who call for supplementary tests, do not carry out the tests. However, they will expect to see evidence of a completed test by the time stipulated or at least before the next thorough examination. It is, therefore, important for the person carrying out the supplementary test to provide a sufficient record of the test and corrective action if necessary, to the owner. Specimen reports of supplementary tests can be downloaded from the SAFed website on www.safed.co.uk. If a test has been called for, SAFed members will not carry out subsequent thorough examinations without evidence of a completed test report.

Any person that does undertake supplementary examinations and tests or any other examinations or tests should however be competent for that purpose.

2.2.1 SAFED Guidelines for the safe operation and maintenance of escalators and moving walks

New Guidelines are currently in the process of being prepared by the Safety Assessment Federation in consultation with the Health and Safety Executive and other interested parties within the escalator and moving walks industry. The Guidelines will supersede the HSE Plant and Machinery Guidance Notes PM34 and PM45. During the preparation of these Guidelines due consideration was given to other relevant European and national standards and documents relating to the safe use of escalators and moving walks.

Although it is generally recognised that escalators and moving walks are a relatively safe way of transporting people, there are a number of potential hazards both endemic to the escalator itself and also brought about by the travelling public. Inappropriate clothing or footwear is a particular hazard, so too is the manner in which escalators and moving walks can be misused and abused.

The aim of the Guidelines is to provide owners and duty holders, industry service providers and users with an understanding of how to discharge their legal responsibilities and duties in a safe, cost effective and consistent manner. In this connection, it sets out in some detail the specific duties and responsibilities of persons who control premises, Competent Persons and manufacturers, suppliers and servicing companies. It also provides recommendations on risk control and reduction to help prevent accidents as well as technical advice on testing and examination, standardised reporting requirements and suitable periodicities between examinations and tests.

The Guidelines themselves have no formal legal status, but are considered good industry practice and, if followed would normally be regarded as sufficient to comply with health and safety duties. Owners and duty holders are free to consider and use other methods of satisfying their responsibilities, but in doing so must be able to demonstrate that this would achieve at least a similar standard of safety. Nevertheless, in the case of an accident and in the absence of other prescriptive legislation or HSE guidance the Courts may consider the recommendations provided in this Guidance in their deliberations.

Although still in the draft and consultation phase of the project, with a potential release date of last quarter 2009/1st quarter 2010, the guidelines include:

A legal commentary and list of the more important legislation that applies to escalators and moving walks, the principal of which is the Health and Safety at Work etc Act 1974, which applies to all applications and outlines the responsibilities and obligations, but does not prescribe the practical measures required to achieve or demonstrate compliance. The subordinate regulations do provide a more prescriptive approach and, although they may not apply to all escalators and moving walks for the purpose of enforcement, the principles of these regulations are acknowledged as an appropriate method of complying with the Act. As such the guidelines follow the principles in the regulations. It should be noted that escalators and moving walks are not considered to be 'lifting appliances' and accordingly are not subject to the Lifting Operations and Lifting Equipment Regulations (LOLER).



→ 2.3 Other Guidance

2.3.1 HSE Guidance Note PM26, Safety at Lift Landings

Offers guidance to those responsible for arranging examinations, repair or maintenance of lifts and regarding the measures required to ensure continued safety during opening of landing entrances. It reinforces the requirement to establish safe systems of work for potentially dangerous activities.

Cautionary note

The wording 'those responsible for arranging examinations' means the building manager and not the lift maintenance contractor. However, it rests with the maintenance contractor to ensure the arrangements are carried out in a safe manner.

2.3.2 Recommendation concerning improvement of safety of existing lifts

About the time when the European Directive for lifts was approved the European Commission, at the direction of the European Parliament, issued a Recommendation concerning the improvement of safety of existing lifts. The Parliament felt it could not set down requirements for new lifts without having some regard for the safety of existing equipment. The Recommendations comprise ten items which briefly cover the following:-

- 1 the lift should be fitted with car doors
- 2 that suspension cables are inspected and replaced where necessary
- 3 that control systems will provide an adequate degree of levelling at landings
- 4 controls to be capable of being used by an unaccompanied disabled person
- 5 the fitting of human presence detectors on automatic doors
- 6 safety gears when initiated to provide controlled deceleration
- 7 a two-way 24 hour communication system in the event of breakdown
- 8 elimination of any asbestos, particularly in braking systems
- 9 the fitting of a device to prevent uncontrolled upward movement of the car
- 10 provision of emergency lighting.

The list is not exhaustive and it is recommended the European EN 81 Standards be applied wherever possible. In particular EN81 Part 80 'Rules for the improvement of safety of existing passenger and goods passenger lifts'.

With the above Recommendations in mind LEIA has produced a Guide to Lift Safety see www.leia.co.uk. The Guide picks up certain of the Commission's Recommendations recognising these are directed at all member states of the European Union whereas the UK has its own priorities. The Guide also covers a few additional recommendations which it was felt should have equal priority in the light of practical experience.

The points covered in the Guide include:-

- floor levelling with particular regard for the infirm and partially sighted
- two-way communication for persons who may become trapped in the car
- protection of voids in the lift well
- lighting in the lift well
- safe access to machine room
- provisions for the safe release of passengers
- the fitting of electronic protective devices on lift doors
- protection against the risk of crushing
- protection against electric shock
- controls to protect maintenance personnel when travelling on the car top.

2.4 CHECKLIST – Additional checks

In addition to those examinations and tests which building maintenance managers are responsible for having undertaken by a competent person, there are certain inspections/checks which they should carry out in their own interest.

Checks by the building maintenance manager are not a substitute for the checks to be undertaken by the maintenance contractor.

2.4.1 Lifts

- 1 Visual inspection of the lift car operating panel.
- 2 Check that all the indicators are working correctly.
- 3 Ensure the alarm/communication system functions correctly.
- 4 Check that the lift doors open when the 'door open' button is depressed.
- 5 Check that all position indicators on the landing are working correctly.
- 6 Check all lighting is in working order.
- 7 Check any mechanical/electronic door protection device (safety edge) such that:
when the safety edge is operated the door re-opens.
after operation and removal of any obstruction the door closes.
- 8 Check that the floor in the immediate vicinity of the landing door is in a clean and safe condition.
- 9 Check the landing doors/gates and architraves ensuring there is nothing which can snag a passenger's clothing.
- 10 Clean door bottom tracks.
- 11 Undertake a full ascent and descent to assess for any unusual noise.

Cautionary note

Caution needs to be exercised when carrying out the following tasks:-

Moving heavy equipment, i.e. safes and office machinery due to weight and dimensions.

Keeping secure from other than authorised persons, the machine room access and keeping control of landing door emergency release keys and the distribution of car preference control keys.

Cleaning enclosures for glass lifts. No person should have access to the lift well without the lift maintenance engineer present.

2.4.2 Escalators

- 1 A visual inspection of the escalator/moving walk for any deficiencies ie cracked glass or loose panels.
- 2 Check all lighting.
- 3 Check escalator stop buttons.
- 4 Check that all walking surfaces are free from tripping or slipping hazards.
- 5 Check handrails for damage.
- 6 Check skirting/deflector devices are securely fixed.
- 7 Check that the escalator/moving walk operates free from excessive noise.
- 8 Check that the comb plates at the top and bottom of the escalator or at the ends of the moving walk do not contain broken teeth.
- 9 Check that all safety pictographs are clearly visible.

3.0 Awareness of change

→ 3.1 Legislation, standards, codes of practice and other recommendations

Owners have a responsibility under the law and will need to keep up to date on any changes that might affect their lift/escalator equipment. It is recognised that this is a highly specialised and sometimes complicated field but assistance is available and can be provided by reputable lift manufacturers and maintenance contractors.

Where building maintenance managers have their equipment regularly examined by an insurance inspector then they too will normally advise on matters where there might be a breach of legislation or where passenger safety is concerned.

→ 3.2 Taking over a new or fully modernised lift/escalator installation

The building maintenance manager may expect that new equipment will comply with all current legislation and standards as well as any other Health and Safety Executive requirements. In addition the law requires that all lifts installed after 1st July 1999 comply with the Lifts Regulations.

The contractor supplying the equipment will normally have provided a 12 month warranty covering parts and labour and in some cases as an extension of the commissioning phase. The contract for supply may include certain work of maintenance for

a limited period in order to 'fine tune' the equipment as it settles into the building.

The building maintenance manager should be aware of such arrangements but should also appreciate that the warranty is not a substitute for the maintenance that is essential from the time the equipment is put into service. Such maintenance, at least for the first year of service, should be placed with the manufacturer in order to protect the rights under the warranty and ensure necessary adjustments are undertaken.

→ 3.3 Taking over an existing lift/escalator installation

In the case of an existing installation it should not be assumed that the equipment complies with all current regulations and/or standards. This is particularly unlikely in the event of equipment which is over ten years of age. Consideration for example may need to be given to access for the disabled because old equipment is unlikely to meet present day requirements.

It is therefore recommended that the building maintenance manager arranges to have the equipment surveyed either by a specialist building services consultant or a lift/escalator contractor.

In addition to checking for breach of legislation or current health and safety requirements, checks should be made for other shortcomings in the equipment which might have a bearing upon safe working.

For example, top of car inspection control, pit stop switches, shaft lighting, pit props and safe access should be provided. These and additional recommendations are contained within BS 7255 'Safe Working on Lifts'.

Escalators require balustrade skirting deflector devices, adequate stop buttons and appropriate safety notices.

The general condition of the equipment should be inspected with regard to wear and tear and anything that might require urgent attention, and to assist in budgeting for future requirements.

Particular attention should be given to the following:-

3.3.1 Fire

If a 'fireman's' lift exists does it perform satisfactorily? If a 'firefighting' lift exists are the arrangements in place for the necessary tests to be undertaken?

3.3.2 Evacuation

Do the building construction content documents permit that any lifts be used for evacuation purposes, if so are the relevant building management systems and periodic testing arrangements in place?

3.3.3 Alarm systems

It will also be advisable to check on the adequacy of the communications/alarm system for when persons may become entrapped in the lift car. Many existing lifts rely upon an alarm bell to attract attention, this may not be sufficient particularly where the equipment might be used when the building has been otherwise vacated. Often a telephone or some form of oral communication system will be necessary even if the extent

of access to external lines is restricted. There are a number of possibilities which will depend on the building usage and degree of internal security.

Note: Under The Lifts Regulations a permanent two-way voice communication system is a requirement for lifts put into service from 1st July 1999.

Many maintenance contractors now have a 24 hour manned call facility and can provide two-way voice communication in the event passengers become entrapped in lift cars, whilst at the same time initiating an emergency call-out for release purposes. Such facilities are normally part of a remote monitoring system, which may also apply in the event of escalator breakdown, informing a control centre immediately a fault takes place.

3.3.4 Lighting

Is there adequate emergency lighting in the lift car and motor room? In the event of a power failure such illumination will assist in comforting passengers and in gaining safe access to the machine room to enable release procedures to be carried out.



3.4 Future cost implications

It is impossible to predict costs that might arise out of implementing future legislative changes which are not always required to have immediate effect. In order therefore to budget for possible expenditure, it is clearly important that the building maintenance manager is aware of prospective changes at the earliest possible time. This is particularly relevant in the case of lifts and escalators which tend to have a longer life cycle than most if not all forms of transportation.

Also to be considered is that within the useful life expectancy of a building, which may be as much as 60 years, an up-grading, or even total replacement, of the equipment may occur on three, if not four occasions. It is clearly desirable therefore to take this into account when looking at long term budgeting arrangements.



4.0 Planning maintenance requirements

→ 4.1 Life expectancy of equipment

Life expectancy of equipment depends largely on environment and usage. As a general guide, providing proper maintenance has been undertaken, generally geared type lift equipment can have a life expectancy of 25 years for the main components and 15 years for the control systems. In the case of gearless machines the main drive machinery could have a life of 40 years

or longer. In both cases this assumes the duty cycle is not significantly changed from the original specification. However, it must be pointed out there are a number of component parts which will require replacement – perhaps several times within these life cycles – such as suspension ropes for lifts and drive chains for escalators.

→ 4.2 Preventative maintenance

Maintenance of lifts and escalators is not an optional feature. In addition to equipment being required to be of good mechanical construction, of sound material and adequate strength, the statutory provisions extend to requiring proper maintenance. Preventative maintenance is best employed in order to preserve the operational integrity of the installation. Such maintenance has many virtues. Regular site visits:

- ensure continued safe functioning of the equipment
- minimise the time that equipment might otherwise be out-of-service
- secure the availability of trained personnel able to respond promptly in the event of breakdown
- prolong the life and performance of the installation.

Preventative maintenance also has the benefit of protecting the value of the investment in the product and spreading the cost more evenly over a longer period of time.

Whilst the extent of maintenance undertaken may vary, a fully comprehensive maintenance arrangement is that which will provide maximum cover for the client fulfilling the benefits described above. This type of agreement serves to anticipate the needs of the equipment and therefore the cost and provision of parts requiring replacement as they become worn. Manufacturers/maintainers can thus spread their costs to the benefit of the client and over a period which may extend for up to twenty years. Lesser agreements are available but will not afford the same benefits. It is important in these cases to consider the scope of what is being offered and the exclusions.

→ 4.3 Frequency of visits

A fully comprehensive agreement will provide for the appropriate number of visits to suit a particular installation, the needs of the client and the age of the equipment. However, where there is a high usage or if a continuation of service is particularly vital, the frequency of visits may need to be increased to once a month (or more often in some cases). On the other hand there may be occasions where fewer visits can be tolerated i.e. where the equipment has limited use. In any event consideration should be given as to when the equipment being

taken out of service for maintenance will cause least inconvenience.

Whilst the point has already been made it is worth stressing that one of the important aims of a full maintenance agreement is to minimise inconvenience caused by interruption in the service and the complaints that might result. A lift/ escalator is an essential feature of building services and their continued availability reflects upon the effectiveness and efficiency of the building as a whole, and therefore its value to the occupier.

→ 4.4 Training

The quality of maintenance offered inevitably rests on the skills of the operative, together with those who provide specialist support. The extent to which such persons have been trained is therefore important particularly in keeping abreast of changes in technology and current safety legislation. BS 7255 states that lift craftpersons should have a minimum qualification at NVQ Level 3 or its equivalent. Building maintenance managers should therefore seek reassurance to this effect from the company whose services they intend to employ. They might wish at the same time to enquire about the company's Safety Policy and whether the company has undertaken a risk assessment of the work to be undertaken as both are requirements in law.

→ 4.5 Safe Release of Passengers

With every lift machine there should be information on the safe release of passengers. The building maintenance manager may have members of staff trained specifically to undertake such a task. Information on release of passengers may be found in the owners instruction manual supplied with the equipment.

→ 4.6 Reporting

There should be some form of log for recording work carried out during visits to site, (usually kept in the lift machine room). The maintenance company will keep a similar record at its office. If in addition clients require periodic reports on the state of the equipment, then the maintenance company must be informed as to the required frequency of such reports. The extent of information required and the person to whom this should be submitted should be clearly stated.



5.0 Maintenance agreements

→ 5.1 Types of agreement

Whilst there is a range of different types of agreement, usually these fall into three basic categories.

In addition to the three types of agreement described, a separate report on the general condition of the equipment might be required for the information of the tenant, owner or insurer. Such a report would arise out of an inspection only and would not involve work on the equipment of any nature.

5.1.1 Fully comprehensive maintenance agreements

These may cover the replacement of most, if not all, component parts required to keep the equipment in a satisfactory working order and may include performance related maintenance in appropriate circumstances.

As previously indicated it is this type of agreement that has the advantage of spreading the cost and extending the life of the equipment whilst facilitating budgeting of annual expenditure.

5.1.2 Comprehensive maintenance agreements

These are similar to the fully comprehensive agreements but the replacement of major components will be excluded, e.g. the main machine, cylinder and piston in the case of a hydraulic lift, controller etc. This allows clients to make their own insurance arrangements if desired.

→ 5.2 Attendance for breakdowns

Having decided on the scope of any type of agreement, it should next be considered whether there should be provision for attendance in the event of a breakdown. Most specialist contractors can provide a 24 hour, seven day breakdown attendance. However, attendance at night times, weekends or during public holidays can be costly and care should be taken in considering the extent of need before requiring such provision.

Where there is a need to call for a visit to site, outside the contracted visits, every endeavour will be made to ensure this

5.1.3 Service agreements

These will normally include for cleaning, oiling and simple adjustment of the equipment as well as the undertaking of an inspection and provision of a report in the event any defects are discovered.

Service agreements are more appropriate for those choosing to take a short term view leaving the owner of the equipment to decide on the degree and timing of his repair investment programme.

In the event the lift/escalator is in a building which may be left unoccupied for any period of time, and where no other form of maintenance/service agreement exists, interim maintenance will be required in order that the equipment is kept in a satisfactory operating condition. The reason is that lack of use can itself cause deterioration as the equipment relies upon movement for its own lubrication.

takes place the same day, and in the shortest possible time particularly in the event persons are entrapped in the car and require assistance. It follows therefore great care should also be exercised in delegating responsibility to those authorised to summon attendance where this is required outside normal working hours and where there is no provision for this to be undertaken under the maintenance/service agreement.

Nevertheless it is well recognised that for certain types of premises such as hospitals and hotels there is justification for

having a maintenance agreement which provides for a full 24 hour seven day week attendance. However it is unlikely the same need could be justified for an office building.

Cautionary note

It should be appreciated that repair work arising out of damage or misuse will not normally be covered under any service or maintenance agreement. This is something which needs to be

allowed for as an additional contingency when budgeting in addition to any up-dating of the product which might be necessary in order to comply with changes in legislative or safety requirements.

BS EN 81 Part 71, 'Vandal Resistant Lifts' gives guidance on the requirements for lifts in vandal prone situations and can help to reduce damage and call-outs.

→ 5.3 Precautions to be taken by service engineers on site

The engineer should report his presence to the responsible person in the building and before putting the equipment 'out of service', suitable warning notices should be posted and in the case of lifts at each landing entrance. Where necessary barriers need to be placed they should be in accordance with HSE Guidance Note PM26.

All rules of safe conduct for the building or surrounding area are to be observed and the fire drill procedures should be understood.

On completion of the work warning notices should be removed, the log recording the visit up-dated, any keys returned and the responsible person advised accordingly.

→ 5.4 Termination of agreements

Long term agreements will usually be on a continuing basis but will provide for a period of notice of termination as well as for

price variation.

→ 5.5 Price variation

It is usual in the case of long term agreements to provide for a variation of the price at a predetermined anniversary date and in

accordance with an agreed method, such as the index produced by the Lift and Escalator Industry Association.

→ 5.6 Terms for payment

Terms for payment will be subject to agreement between the parties concerned.

→ 5.7 Contractor's liability insurance

There is a potential liability for claims from tenants and passengers in the event of accidental damage and clients should

seek to satisfy themselves on the extent of the contractor's insurance cover.

→ 5.8 Additional works

Work normally excluded from a maintenance agreement will include:

- repairs in the case of a service type agreement
- all repairs arising from damage or misuse
- up-grading of decorative finishes
- up-grading to accommodate changes in technology
- amendments to satisfy changes in standards or legislation.

Cautionary note

With regard to up-grading of car finishes and other decoration within the car, it is important to appreciate these items have a fundamental effect on the design of the equipment. Careful consideration needs to be given to the weight of material used to ensure that the lift does not become overloaded and thus unsafe. Such work should only be placed with a specialist lift contractor.

Appendix A: References

Legislation

The Health and Safety at Work etc Act 1974

The Management of Health and Safety at Work Regulations 1999

The Workplace (Health, Safety and Welfare) Regulations 1992

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

Health and Safety Executive Guidance Note PM26, Safety at Lift Landings

The Lift Regulations 1997

The Provision and use of Work Equipment Regulations 1998

The Lifting Operations and Lifting Equipment Regulations 1998

SAFed Guidelines on the Supplementary Tests of In-Service Lifts

SAFed Guidelines for the Safe Operation and Management of Escalators and Moving Walks

European Commission Recommendation Concerning Improvement of Safety of Existing Lifts

Applicable Standards (Not all of which have been referred to)

BS EN 81 Safety Rules for the Construction and Installation of Lifts Part 1: Electric Lifts

BS EN 81 Safety Rules for the Construction and Installation of Lifts Part 2: Hydraulic Lifts

BS 5655, Lifts and Service Lifts, Part 6: Code of Practice for Selection and Installation

BS EN 115 Safety Rules for Construction and Installation of Escalators and Passenger Conveyors

BS 9999: Code of Practice for Fire Safety in the Design, Management and Use of Buildings (Contains provisions previously included in BS5588 on Lifts)

BS 7801: Code of Practice for Safe Working on Escalators and Moving Walks

BS EN 81-71: Safety rules for the construction and installation of lifts – Particular applications to passenger lifts and goods passenger lifts – Part 71: Vandal resistant lifts

BS 8486-1: Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 1: Electric lifts

BS 8486-2: Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 2: Hydraulic lifts

BS EN 81-80: Rules for the improvement of safety of existing passenger and goods passenger lifts.

BS EN 13015: Maintenance of lifts – Rules for maintenance instructions

BS EN 81-40: Stairlifts and Inclined Lifting Platforms intended for Persons with Impaired mobility

BS EN 81-41: Vertical Lifting Platforms for use by Persons with Impaired Mobility

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