

Lifts Group

Minutes of the CIBSE Lifts Group AGM 7 February 2017



PRESENT

Philip Arshad, Network Rail
Tony Baker, Allianz Engineering
Gina Barney, Gina Barney Associates
John Bashford, J Bashford & Associates
Jonathan Beebe, Jonathan Beebe Ltd
Martin Bettridge, Martin Bettridge Lift Consultant
Michael Bottomley, Movveo
Damien Cleary, Cleary Technical Services
David Cooper, LECS (UK) Ltd
Paul Davidson
Dominic Dawson, Zurich Engineering
Rony Eappen, D2E international VT consultants
Christa Efthathiou, Kleemans
Chris Etchells, ANSA Elevators Ltd
Elizabeth Evans, Peters Research Ltd
Derek Finch, Focus FM
John Gale, Creative Spark Partnership
Peter Georgiou, Thyssenkrupp Elevator
Philip GORDGE, Schmersal UK
Len Halsey, Canary Wharf Contractors
Prema Hewasinghag
David Hickey
Stevan Hobson, Crest Lifts Ltd
Lionel Hutt, Lester Controls
Duncan Jones, SWECO Ltd
Gary Kennedy, ANSA Elevators Ltd
Peter Levers
Gordon Lucas, ILECS
John McVey, Global Lift Equipment Ltd
Ronald Moss, Atkins
Gabriel Murray, The Lift Consultancy Central Ltd
Phil Oakley, BRE
Francis Parker, Alloty
Phil Pearson, Pearson Consult Ltd
Richard Peters, Peters Research Ltd
David Pickering, ILECS

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Adam Scott, SWECO Ltd
Emma Scott-Miller, D2E
Haris Selimotic, London Borough Hammersmith & Fulham
Ehsan Shamsi, NCP
Vince Sharpe, Allianz Engineering
Scott Stewart, Zurich Engineering
Barry Vanderhoven

APOLOGIES

Wee Chuan Lim, Foster and Partners Ltd
Lionel Dezoysa, Hill International (UK) Limited

DISTRIBUTION

Those present and web site
Dr Ken Butcher (CIBSE), Nyree Hughes (CIBSE)

1. Welcome and apologies

The meeting was opened by LH. Apologies received were noted.

2. Minutes of previous meeting

The previous minutes were reviewed and accepted without amendment.

3. Matters arising

There were no matters arising not on the agenda.

4. Report for 2016

RP presented a summary of the activities for 2016. The slides for his presentation are attached to these minutes.

5. AGM Elections

The following people were proposed and elected unanimously as officers for the Lifts Group:

Chairman, Len Halsey
Vice Chairman, Michael Bottomley
Secretary, Richard Peters
Treasurer, Elizabeth Evans
BSI Representative, Adam Scott
Events Organiser, Gina Barney
Media WeeChuan Lim
Lift Academy, David Cooper
Exhibitions John Bashford
Events Team, Phil Pearson

6. Events in 2017

GB reported that the annual seminar will be on 1 November 2017. There is also a seminar planned in Manchester for 6 June 2016.

Full details of these events and instructions on how to book will be posted on the web site. www.cibseliftsgroup.org as soon as they are available.

The 7th Lift and Escalator Symposium organised with the University of Northampton and LEIA will be on 20th and 21st September 2017.

7. Treasurer's report

EE gave a summary of the accounts which had been reviewed by the committee. The accounts were approved. A copy is attached to these minutes.

8. Standards and Regulations

GB provided an overview. A status report prepared by AS and a LEIA guidance note is attached to these minutes.

9. Any other business

None.

10. Next meeting

Then next Lifts Group AGM and Evening Meeting will be on 6th February 2018.

11. Presentation

The meeting was followed by presentations on:

1. “The mysteries of lift maintenance – are lift owners getting a good service?” by Phil Pearson of Pearson Consult Ltd
2. “The mysteries of BIM Level 2 & LEXiCON – A Methodology for Delivering Structured Data” by Paul Oakley of Building Research Establishment.



Report for 2016

London Evening Meeting and AGM 9 February 2016



*Optimisation of the Running Speed
of Escalators on the London
Underground*
by Ben Langham, London
Underground



The Trouble with Mobility Scooters
by Michael Bottomley, Movveo
Ltd.

40 people attended



The Lifts Group Executive 2016

Manchester Evening Meeting 7 June 2016

The Trouble with Mobility Scooters
Michael Bottomley, Movveo Ltd.

*Forum on Standards including progress towards
EN 81-20 and its associated harmonised standards*

Dr Gina Barney & Adam Scott



30 people attended

6th Symposium on Lift & Escalator Technology 21 - 22 September 2016 with The University of Northampton & LEIA



LIFT & ESCALATOR
SYMPOSIUM

7th Symposium
20 to 21 September 2017



Two days
Peer reviewed
technical papers.
International
speakers and
attendees.

The Lift And
Escalator Symposium
Educational Trust
Charity No 1170947

www.liftsymposium.org for proceedings & videos

126 people attended



TRANSPORTATION
SYSTEMS IN
BUILDINGS

A peer-reviewed, Open Access journal that publishes original
research articles as well as review articles related to all
aspects of Vertical Transportation



THE UNIVERSITY OF
NORTHAMPTON

2016 Annual Seminar London, November 2016

Installing and calibrating loop amplifiers to EN81-70 for audio frequency induction loop systems

John Trett, CE Electronics

Integration of lift systems into the Internet of Things and the need for an open standard information model

Jonathan Beebe, Jonathan Beebe Ltd

The report of thorough examination as a management tool for maintenance

Dominic Dawson, Zurich Engineering, UK

16.00 *London Underground escalator passenger safety strategy*

Phil Harley, Kevin Seaborne, London Underground

Pilot for standing on both sides of escalators

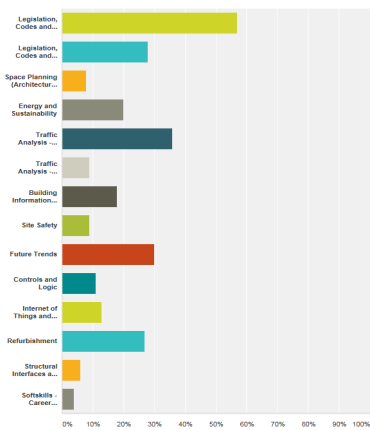
Celia Harrison, Paul Stoneman, Transport for London

Exploring the concept of using lifts to assist the evacuation of very tall buildings

Peter Sumner, WSP Buildings

34 people attended

Training survey



CIBSE Lifts Group Accounts 2016

	Expenditure	Income
Balance brought forward as at 1 February 2016		£4,504.96
AGM 2016 – 9 February 2016		
Dinner for speakers and exec	£379.61	£4,125.35
Manchester Event – 7 June 2016		
Mechanics Centre Room Hire & Catering	£361.00	£3,764.35
Annual Seminar – 2 November 2016		
Catering	£203.04	£3,561.31
Dinner for speakers and exec	£342.43	£3,218.88
EventBrite processing fees	£70.11	£3,148.77
Income from Delegate Fees		£1,000.00
	£1,356.19	£1,000.00
Balance as at 31st January 2017		£4,148.77


Elizabeth Evans

Treasurer, 7th February 2017



Len Halsey
Chairman, 7th February 2017

CIBSE LIFTS GROUP

Codes and Standards – Notes for minutes

08/02/17 – Adam J Scott

National Matters

BS 8899 - New Standard for Modernization of Fire Lifts

Now published. Members encouraged to use this as guide to modernization of fire lifts in the same manner as BS EN81-80 is used for passenger goods lifts.

BS 8486 - New standards for testing of lifts and lifting platforms

Under review due to potential issues with dating of parent standards. Proposal to publish standalone parts focussed on specific categories of lifts, i.e. BS 8486-1 for legacy product of BS EN81-1, BS 8486-3 for BS EN81-20 lifts, BS 8486-4 for BS EN81-21, BS 8486-5 for BS EN81-28...inclusive of lifting platforms.

Recognition that the common elements for Part 20 lifts need to be in place and published by end of August 2017.

Longer term initiative to develop electronic format test papers.

Development of MHE/4 Q&A website

Q&A facility on standards is now available via the BSi shop. Search to the relevant standard and complete the online enquiry form to submit a question to the committee:

<http://shop.bsigroup.com/>

There is also a useful synopsis of all lift and escalator standards at:

<https://standardsdevelopment.bsigroup.com/search>

BS EN81-21 & BEIS derogation process

An important document has been published by BEIS & LEIA providing revised guidance on the use of Part 21 and reduced pit and headroom refuge spaces (attached).

Building owner or developer must lead the application to BEIS.

Part 20 can be used in new or existing buildings

Part 21 can now be used in *existing* buildings without BEIS derogation. If a lift is to be installed in *new* buildings with Part 21 refuge spaces, then design team (not the lift manufacturer) must secure BEIS derogation prior to lift manufacturer involvement and discussions with their notified bodies, if they have other deviations and/or they are using Part 21 in a new building.

BS 8300 revision

To be split into BS 8300 – 1 (interior) and BS 8300 – 2 (exterior). Informal review by MHE/4 imminently. DPC due Q2 2017.

Lifts Regulations

The new Lifts Regulations as published by the UK Government has obvious errors in which have been highlighted to the appropriate people. Amendment and correction may take some time.

European Matters

EN81-20 / 50

Revised Part 20 / 50 should be issued end of 2017. Will contain alternative means of suspension, updated PESSRAL, powered rescue devices, etc.

EN115-1 (Escalators)

Just out for formal vote. EN115-3 will follow later this year and provide a comparison between the new and the old standard.

EN81-58 (Door Fire Testing)

Under revision. DPC process complete. Publication due late summer.

EN81-72 & 73

Published last year. National foreword is important.

EN81-76

Evacuation TR under review. DPC due late 2017. ISO 18870 covers lifts for evacuation by all.

EN81-70

Now out for final vote imminently. Should be published Q2 2017

EN81-40 Stairlifts and inclined lifting platforms

DPC should be Q2 2017.

EN81-41 Vertical lifting platforms intended for use by persons with impaired mobility

DPC complete. Review of comments starts next month.

EN81-80 Safety of existing lifts

DPC complete. Review of comments at BSi level has led to BSI voting "NO". There is likely to be delay to this standard appearing.

EN81-42 Slow speed lifts

Two years work, but still at early stages. Early drafting work underway. Goal is for initial draft by end of 2017.

International Matters

ISO 8100

There is now agreement to move forward with the transition of EN81-20/50 to ISO 8100-1, 8100-2. Current programme suggests this transition may occur around 2020.

ISO 4190-1

Draft prepared and awaiting approval for DPC. Will transfer to ISO 8100-30. Will include MRL lifts information and mirror new car types in EN81-70.

ISO 4190-5

Awaiting Part 70 final vote for start.

ISO 4190-6

Minority report to be submitted by UK due to continued lack of consensus amongst the group.

MHE/4 chairman reported that relations between BSi and CEN remain good in the light of the current Brexit situation.

LEIA TECHNICAL GUIDANCE NOTE No. 25rev1

Lifts Directive Annex 1, Essential Health and Safety Requirement (EHSR) 2.2; Guidance on application and on applying to BEIS for derogation

Introduction

The Lift Regulations 2016, transposing the EU Lifts Directive 2014/33/EU (the “Directive”), provide that the UK (the Department for Business, Energy and Industrial Strategy (BEIS)) may grant derogations from the manner in which essential health and safety requirement 2.2 (EHSR 2.2) of the Directive may be achieved. The Lifts Regulations 2016 transpose EHSR 2.2 in Annex 1 of the Directive to paragraphs 3(2), 3(3) and 3(4) of Schedule 1 of the Lifts Regulations 2016. Throughout this guidance, references are made to the Lifts Directive.

EHSR 2.2 is set out at Annex 1 of the Directive and states:-

“The lift must be designed and constructed to prevent the risk of crushing when the car is in one of its extreme positions.

The objective will be achieved by means of free space or refuge beyond the extreme positions.

However, in specific cases, in affording Member States the possibility of giving prior approval, particularly in existing buildings, where this solution is impossible to fulfil, other appropriate means may be provided to avoid this risk.”

This guidance note sets out further information on the procedure for applying to BEIS for a derogation under EHSR 2.2 and the factors that BEIS will consider in assessing any application.

BEIS guidance on EHSR 2.2

The first sentence indicates the risk to be addressed and the second sentence specifies the means by which that risk is to be prevented wherever it is possible to do so. The effect of the third sentence is that, where it is impossible to adopt these means and BEIS is satisfied that this is the case, other appropriate means of preventing the risk of crushing may be used.

In relation to “free space or refuge beyond the extreme positions” in the second sentence, BEIS’ view is that “the extreme positions” means the highest and lowest positions which the lift car can reach in the event of inadvertent over travel (for whatever reason). Such extreme positions might be established by means defined in the specific Harmonised Standards, relevant to safe lift design, to prevent the further movement of the lift car.

The extreme position determining the “free space or refuge” described in these standards also considers that ascending lift cars supported by ropes and chains may continue to travel upwards momentarily, even though the counterweight buffers have been fully compressed or their hydraulic jacks have reached the extremities of their strokes.

In the opinion of BEIS the minimum requirement for the “free space or refuge” can be met by provision of the relevant refuge space requirements in applicable harmonised standards:

- BS EN 81-20:2014 Clause 5.2.5.7.1 in respect of headroom and 5.2.5.8.1 in respect of the pit for new lifts in new buildings.
- BS EN 81-21:2017 Clause 5.6.2.4 (once published and harmonised) in respect of headroom and 5.8.2.4 in respect of the pit for new lifts in existing buildings (once this standard is published and harmonised).

Please note that these are different from the previously accepted requirements of BS EN 81-1:1998 Clause 5.7.1.1 d) in respect of headroom and 5.7.3.3 a) in respect of the pit, since this standard and BS EN 81-2 will be fully withdrawn and superseded after 31st August 2017.

For new lifts in existing buildings, BS EN 81-21:2017 (once published and harmonised) represents the state of the art. BS EN 81-21:2009 may not be used to fulfil the refuge spaces required by this guidance since it is in the process of being withdrawn and superseded.

It should be made clear that BEIS can only consider applications for derogations from the requirement to provide a permanent “refuge” space and that all the other linear dimensions indicated in relevant harmonised standards should be respected or approval sought from a Notified Body that the design of the lift meets the essential Health and Safety Requirements of the Directive.

BEIS’ general guidance, in consultation with the Health and Safety Executive (HSE), on the general application of the Directive is as follows:

- It is for the suppliers of products and, in the case of lifts, those persons taking responsibility for their installation to assess how the relevant legislation applies to their products/installation and to account, as necessary, for their decisions to the market surveillance/ enforcement authorities and, in appropriate cases, to the courts. BEIS might have a view on the position but this would not have the force of law: the interpretation of legislation is a matter for the courts and, in respect of EU Directives, ultimately the European Court of Justice.
- If the person taking responsibility for installation of the lift concludes it is impossible to provide the minimum requirement of “free space or refuge” - then the following apply:
 - The person taking responsibility must undertake a discussion with all relevant persons to seek a solution where a compliant lift can be installed.
 - The application to BEIS for derogation must address a specific case of lift installation.
 - BEIS will require confirmation from the applicant that the relevant persons have been involved and agreed that a lift solution less satisfactory than a fully compliant lift is the only solution.
 - BEIS takes no responsibility for the use of a non-compliant lift solution; responsibility rests with those installing the lift.

Prior derogation only will be given. Derogations sought subsequent to construction/ installation will not meet the requirement in EHSR 2.2 and cannot be issued (see Notes below). Derogations are meant to be given only in exceptional circumstances regardless of the kind of building concerned.

The solution based on the free space or refuge beyond the extreme positions must be **impossible to fulfil**. “Impossible” means either physically impossible i.e. due to constraints imposed by factors such as the presence of gas mains or major electric cables or tunnels, or legal constraints such as those imposed by preservation orders or the refusal of owners of adjacent premises to make more space available. It is not an economic concept, so it follows that applications based on differential costs between providing free space or refuge when the lift is in one of the extreme positions and providing another solution cannot be approved. The person seeking BEIS’ prior derogation must explain to BEIS’ satisfaction why his conclusion that the solution, based on free space or refuge at the extreme positions being impossible to fulfil, is a well-founded one.

Guidance on how to proceed

Where the permanent refuge spaces are not available for a new lift, then an application to BEIS for a derogation must be made.

If refuge spaces are available on new lifts in new buildings which are fully in conformity to BS EN 81-20:2014 or, only for new lifts in existing buildings, to BS EN 81-21:2017 (once published and harmonized), no application to BEIS is required.

We recommend that application is made at an early stage by the building owner/ designer to avoid delays and to establish feasibility prior to commencing the work. Although the ultimate responsibility for making an application might fall to the lift installer, all parties should recognise that gaining derogation is outside the control of either the building designer or lift installer and that derogation might not be obtained.

By applying for this derogation it should be understood that the installer of the lift has had a full discussion with clients and any other interested parties and that those parties have fully understood the implications for safety with regard to using a lift solution that does not provide full compliance with the Lifts Directive, Essential Requirement 2.2. The derogation is based on the assumption that clients and any other interested parties have agreed that physical and / or legal restrictions or requirements are such that the installation of a lift fully compliant with Essential Requirement 2.2 is not possible and therefore that a derogation is appropriate.

New lifts in new buildings

It follows from the above that BEIS would grant prior a derogation only in very exceptional circumstances for a new building. New buildings must be designed, except in very exceptional circumstances, so as to provide enough space for compliant lifts and that this must be a priority over other such considerations such as cost or architectural preference.

In such a situation, consultants and building designers should be cognisant of Regulation 9 of The Construction (Design and Management) Regulations 2015 (CDMR):

- 9.—(2) *When preparing or modifying a design the designer must take into account the general principles of prevention and any pre-construction information to eliminate, so far as is reasonably practicable, foreseeable risks to the health or safety of any person—*
...(b) maintaining or cleaning a structure...
- (3) *If it is not possible to eliminate these risks, the designer must, so far as is reasonably practicable—*
(a) take steps to reduce or, if that is not possible, control the risks through the subsequent design process;
(b) provide information about those risks to the principal designer; and
(c) ensure appropriate information is included in the health and safety file.

In this context, provision of sufficient building space for the lift to have adequate permanent refuge spaces for those maintaining the lift is clearly higher priority in the hierarchy (since it addresses the crushing hazard) than requiring the lift contractor to mitigate the risks passed to them from the building designer.

New lifts in existing buildings

BEIS expects the majority of applications will be in relation to existing buildings. However, designers still have the same responsibilities under CDMR so they must avoid the hazard if possible and, if this is not possible, mitigate the risk through design and by maximising available refuge spaces.

Considerations before applying to BEIS for a derogation to EHSR 2.2

The following are suggestions for the points which should be considered before deciding whether to make an application to BEIS for derogation and which should be addressed in such an application. An application should not be made unless these points can be addressed adequately.

1. Is it “impossible” to obtain sufficient clearances to allow the refuge spaces to be achieved or is the application being made to avoid inconvenience and greater cost associated with modifying the building or lift design? This argument should be provided by the building owner/ designer since the lift contractor or Notified Body would not usually be in a position to do so.
2. Have building related options been fully explored e.g. positioning the lift where increased clearances are available or extending pit and/ or headroom clearances as required? This is primarily by the building designer with some involvement from a lift specialist.
3. Have lift design related options to maximise refuge spaces been fully explored (e.g. by reducing rated speed, reducing car height (but not below 2 m), alternative design for car frame etc.)?
4. If the design does not comply with a harmonised standard, has the proposed lift

installer discussed their proposed solution with their Notified Body?

Note: The application should include details of the Notified Body to be used by the proposed lift installer.

A dimensioned drawing showing the refuge spaces would usually be required in support of an application. As far as possible, risk assessments and other relevant documents and drawings should be assembled to support the application.

When submitting a proposal for BEIS' consideration the applicant should document as fully as possible the reasons why a solution based on free space or refuge beyond the extreme position is impossible to fulfil. If the applicant's representations are such as to leave BEIS in any doubt as to the impossibility of adopting a solution based on free space or refuge, it will result in further questions being asked by BEIS and will further delay the process.

Applicants do not need to address BEIS on the 'other appropriate means' they would propose to use in the event of their application for a derogation being successful. BEIS will take no responsibility for the safety of design solution selected. The granting of a derogation does not constitute approval of any possible solution that the lift installer have already selected in order to address the non-compliance. This derogation is granted on the basis that the installer of the lift has full responsibility to ensure the safety of the solution that will be used to address the non-compliance. It should be understood that the responsibility for the lift installation remains with the installer as set out in the Lifts Directive and not with BEIS.

Proposals for BEIS' consideration under the third sentence of the Directive Annex 1 EHSR 2.2 should be addressed to:

*Policy Advisor – Lifts Directive, Department for Business, Energy & Industrial Strategy
1 Victoria Street, London SW1H 0ET.*

Any enquiries should be made via: Tel No. 020 7215 1774 or email:

Kevin.Lane@beis.gov.uk

MATRIX OF PROCEDURES TO BE ADOPTED				
	For lifts installed (put into service) until 31st August 2017		For lifts installed (put into service) from 1st September 2017	
	Permanent refuge spaces defined in BS EN 81-1: 1998, clauses 5.7.1.1 d), 5.7.2.2 c), 5.7.3.3 a) or BS EN 81-2: 1998, clauses 5.7.1.1 d), 5.7.2.3 a), can be accommodated in pit and headroom	Permanent refuge spaces defined in BS EN 81-1:1998, clauses 5.7.1.1 d), 5.7.2.2 c), 5.7.3.3 a) and BS EN 81-2:1998, clauses 5.7.1.1 d), 5.7.2.3 a), can NOT be accommodated in either pit or headroom	Permanent refuge spaces defined in BS EN 81-20: 2014, clauses 5.2.5.7.1 and 5.2.5.8.1, can be accommodated in pit and headroom	Permanent refuge spaces defined in BS EN 81-20:2014, clauses 5.2.5.7.1 and 5.2.5.8.1, can NOT be accommodated in either pit or headroom
New lift in a new building	<p>Either</p> <p>Comply with a harmonised standard: BS EN 81-1:1998 +A3:2009 or BS EN 81-2:1998 +A3:2009 or BS EN 81-20:2014</p> <p>or</p> <p>Notified Body approval (EU Type Examination or EU Design Examination Certificate).</p>	<p>Note derogation from BEIS would be granted only in exceptional circumstances in a new building and so a higher level of justification may be needed.</p> <p>Assemble documentation in support of application.</p> <p>Apply for derogation from BEIS.</p> <p>Seek Notified Body approval (EU Design Examination Certificate) since the design deviates from the harmonised Standards</p>	<p>either</p> <p>Comply with harmonised standard BS EN 81-20:2014</p> <p>or</p> <p>Notified Body approval (EU Type Examination or EU Design Examination Certificate).</p>	<p>Note derogation from BEIS would be granted only in exceptional circumstances in a new building and so a higher level of justification may be needed.</p> <p>Assemble documentation in support of application.</p> <p>Apply for derogation from BEIS.</p> <p>Seek Notified Body approval (EU Design Examination Certificate) since the design deviates from the harmonised Standards</p>

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New lift in an existing building	Either Comply with a harmonised standard: BS EN 81-1:1998 +A3:2009 or BS EN 81-2:1998 +A3:2009 or BS EN 81-20:2014 or Notified Body approval (EU Type Examination or EU Design Examination Certificate).	Option 1 Comply with BS EN 81-21:2017 once published and harmonised	Either Comply with harmonised standard BS EN 81-20:2014 or Notified Body approval (EU Type Examination or Design Examination Certificate).	Option 1 Comply with BS EN 81-21:2017 once published and harmonised
		Option 2 Assemble documentation in support of application. Apply for derogation from BEIS. And seek Notified Body approval (EU Type Examination or Design Examination Certificate where the design deviates from BS EN 81-1:1998 +A3:2009 or BS EN 81-2:1998 +A3:2009 or BS EN 81-20:2014 Refuge spaces shall not be less than BS EN 81-21:2017, clauses 5.6.2.4 and 5.8.2.4		Option 2 Assemble documentation in support of application. Apply for derogation from BEIS. And seek Notified Body approval (EU Type Examination or Design Examination Certificate where the design deviates from BS EN 81-20:2014 or BS EN 81-21:2017 once published and harmonised Refuge spaces shall not be less than BS EN 81-21:2017, clauses 5.6.2.4 and 5.8.2.4

Figure 1: Flow Chart for determining if derogation is required

