

Lifts in Health: Health Technical Memorandum 08-02 Revisited

Gina Barney¹

¹Gina Barney Associates, PO Box 7, Sedbergh, LA10 5LU

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Abstract: The Department of Health (DH) is responsible for the health and adult social care matters in England, along with a few elements of the same matters which are not otherwise devolved to the Scottish Government, Welsh Government or Northern Ireland Executive. It oversees the English National Health Service (NHS). The NHS employs more than 1.6 million people, putting it in the top five of the world's largest workforces together with the US Department of Defence, McDonalds, Walmart and the Chinese People's Liberation Army. The NHS in England is the biggest part of the system, catering to a population of 53.9 million and employing more than 1.3 million people. The DH publishes Health Technical Memoranda (HTM) and Health Building Notes (HBN). HTM 08-02 Lifts provides guidance and recommendations for lifts to be provided in all healthcare buildings from the simplest rural practice with one lift to high rise facilities with many lifts. Lifts were originally covered in HTM 2024: 1995. This was replaced by HTM 08-02 in February 2010, which was written by the author and peer reviewed by an expert panel. It is held to be authoritative in the UK healthcare field. Since 2010 many changes have occurred in regulations, standards and the state of the art. The author has updated HTM 08-021 and presents her work in this paper. She also describes the structure of the HTMs and HBNs published by the DH.

1 HOW THE DEPARTMENT OF HEALTH MANAGES ITS ESTATE

The Department of Health (DH) has a duty of care as a healthcare provider to ensure appropriate governance, effective management, the application of best practice engineering standards and policy during the whole building lifecycle of all healthcare buildings.

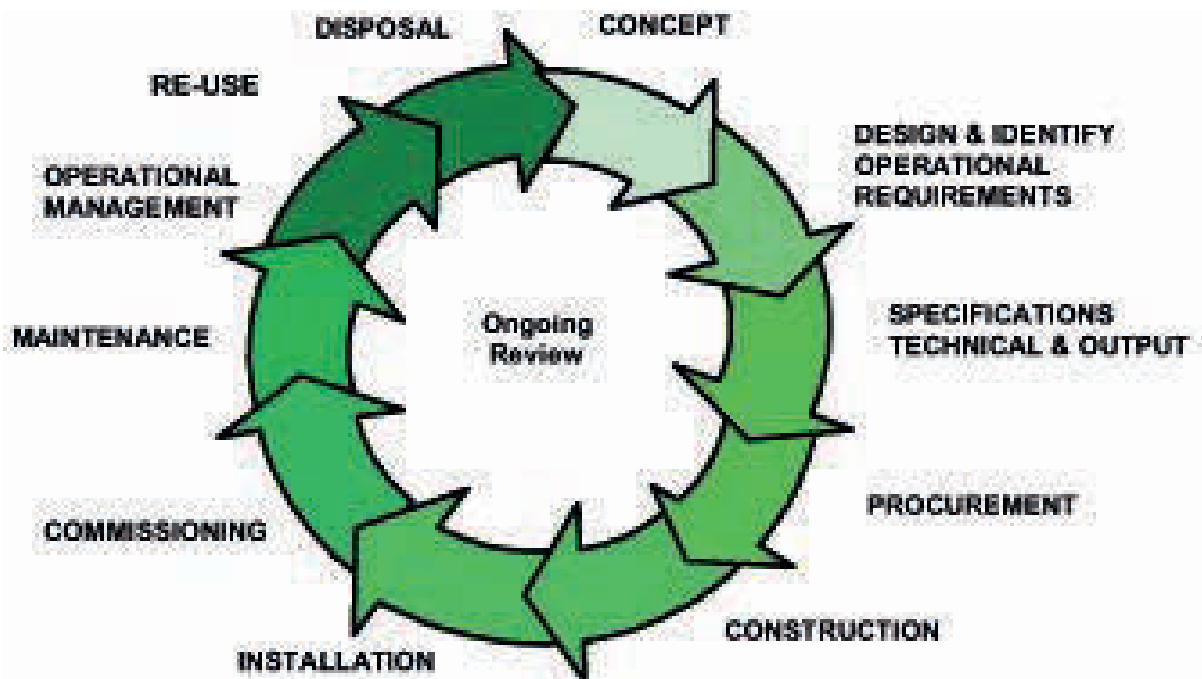


Figure 1: Whole building lifecycle

¹ Published June 2016



Figure 2: Health specific documents

Health Technical Memoranda (HTM) underpin the DH's duty of care as they give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare. The HTMs are supported by Health Building Notes (HBN), which give best practice guidance on the design and planning of new healthcare buildings and on the adaptation/extension of existing facilities. Annex A gives more information on HTMs and HBNs.

Table 1: Health Technical Memoranda

HTM00	Policies and principles (applicable to all Health Technical Memoranda)
HTM01	Decontamination
HTM02	Medical gases
HTM03	Ventilation systems
HTM04	Water systems
HTM05	Fire safety
HTM06	Electrical services
HTM07	Environment and sustainability
HTM08	Specialist services

2 THE HEALTH TECHNICAL MEMORANDA

The Health Technical Memoranda are structured into a suite of eight core subjects and one overriding HTM as shown in Figure 2 and Table 1.

Some subject areas are developed into topics shown as -01, -02, etc. and subdivided into Parts A, B, etc. For example, HTM 06-02, Part A will represent: Electrical services – Safety – Low voltage.

HTM 08 covers specialist services as the examples shown in Table 2.

Table 2: Examples of specialist services

HTM 08-01	[Specialist services] Acoustics
HTM 08-06	[Specialist services] Pathology laboratory gas systems

Lifts are a specialist service and designated HTM 08-02: Lifts, 2016 Edition.

3 THE HISTORY OF HTM 08-02

The DH published HTM 2024 in 1995. It thus predated the Lifts Regulations 1997 and by 2008 was totally out of date with changes to legislation and the state of the art. It also comprised four parts with a great deal of repetitive text and some parts were prescriptive and were not performance based. Realising this, the DH commissioned this author to revise HTM 2024 into the new HTM suite with the designation HTM 08-02.

HTM 08-02 was to comprise one part, be up to date, cover new technologies and be performance based. As part of the suite of HTMs it was to link with them and any supporting HBNs. The project started in September 2008 and was sent to the Central Office of Information (the then government publishing house) in September 2009 and was published in February 2010. The new HTM was thoroughly peer reviewed by both lift industry members from all areas of activity and NHS representatives.

For some time this author has pointed out to the DH that the 2010 edition needed urgent revision. Eventually the DH found some funds to engage an independent publishing house² to carry out a partial revision of the 2010 edition concentrating mainly on the legislative and state of the art changes. This author was engaged to do this.

The scope of HTM 08-02: 2016 is slightly changed from the 2010 edition and is:

1.1 This Health Technical Memorandum covers new lifts installed in healthcare buildings. However, the recommendations in this Health Technical Memorandum can also be used as guidance for the upgrading of the safety and performance of existing lifts.

1.2 It is assumed that equipment with the latest in lift safety technology is provided and that the drive systems are either electric traction or electric hydraulic.

1.3 This Health Technical Memorandum does not specifically cover manually-operated lifts, lifting platforms or stair lifts, escalators or moving walks, where specialist advice should be sought (see also Appendices H and J). Escalators, moving walks, lifting platforms and stair lifts come under the Supply of Machinery (Safety) Regulations 2008. Some guidance is given in the provision of escalators in Appendix H. It is not anticipated that healthcare buildings will

² The Government closed the COI in 2010.

contain architectural barriers requiring the provision of lifting platforms, stair lifts or platform stair lifts. However some guidance is given in the provision of lifting platforms and platform (wheelchair) stair lifts in Appendix J.

1.4 Neither does this HTM cover the movement of dangerous materials and gases in lifts. See Health Technical Memorandum 02-01 – ‘Medical gas pipeline systems’ for guidance.

4 THE PROBLEM OF REVISING HTM 08-02 IN EARLY 2016

At May 2016:

- The Lifts Regulations had not been published to supersede those of 1997.
- The date of withdrawal of the BS EN 81-1/2 is set for 31 August 2017.
- The date of withdrawal of the supporting harmonised EN 81 family is set for 31 August 2018.
- There are projects in progress that *must* finish by 31 August 2017 under BS EN 81-1/2.
- There are new projects which need to meet BS EN 81-20/50 and not all equipment meets the new standards.

At first this author tried to consider both main scenarios of EN 81-1/2 and EN 81-20/50. At peer review³ this was suggested as the wrong approach. Thus at the final proofing stage it was decided to meet the future not the past. The important note in the box below was incorporated into the revised HTM 08-02.

Important note to users of this edition of HTM 08-02

Since the publication of HTM 08-02 in 2010, a number of major changes to European Directives, UK Acts and Regulations and in particular to the BS EN 81 suite of standards have occurred.

During the development of BS EN 81-20 and BS EN 81-50 as replacements to the long-standing BS EN 81-1 and BS EN 81-2, it was realised that the scale of changes being required of manufacturers in their product ranges would necessitate a period of grace where new designs could be developed, tested and certified. The final date of withdrawal of BS EN 81-1 and BS EN 81-2 was set to be three years after the publication of BS EN 81-20 and BS EN 81-50 – that is, on 31 August 2017. This means that for three years, manufacturers may use either of these standards to build their products, but on 1 September 2017 the older standards will be fully withdrawn.

A consequence of the publication of BS EN 81-20:2014 and BS EN 81-50:2014 is that the supporting harmonised standards and supporting unharmonised standards also need revision. The timescale for the completion of this task is to be 31 August 2018.

Thus a state of flux exists in compliance to the Lifts Regulations. Users of this HTM must be apprised of the critical dates and the consequences of not complying with the relevant standards at the time a new lift is placed in service. Serious consequences can result from overlooking this state of flux, especially when projects overrun the critical dates.

³ This author is deeply grateful to her industry colleagues listed in the Acknowledgements for their constructive comments.

The major changes since the 2010 edition of HTM 08-02 are:

- This edition of HTM 08-02 reflects changes to the legal and standards requirements and their effect on the presumption of conformity to the Lifts Regulations applicable when a lift is put into service.
- References are made to the new BS EN 81-20/50 standards in place of the older BS EN 81-1/2 standards.
- Restructuring of Chapter 2 to *Statutory requirements and regulatory environment* and Chapter 3 to *Professional roles and responsibilities*.
- Inclusion of the latest BREEAM credit system.
- Deletion of the Appendix concerning energy-efficient designs and reference made to the BS EN ISO 25745 series of standards.
- Revision of references.

A number of formatting and other editorial corrections were also made.

5 THE CONTENTS OF HTM 08-02: 2016

The contents of HTM 08-02: 2016 are similar to the 2010 edition and are shown in Table 3.

Table 3: Table of contents

PREFACE

Executive summary

Acknowledgements

Glossary of terms

1.0 Introduction

SECTION 1: MANAGEMENT POLICY

2.0 Statutory requirements and regulatory environment

3.0 Professional roles and responsibilities

4.0 Lift provision

SECTION 2: DESIGN CONSIDERATIONS

5.0 Lift planning

6.0 Lift equipment

SECTION 3: COMMISSIONING VALIDATION, CHECKS AND TESTING

7.0 Commissioning, validation and checks

8.0 Testing

SECTION 4: OPERATIONAL MANAGEMENT

9.0 Management of lift installations

10.0 Maintenance

11.0 Modernisation and upgrading

Appendix A – Relevant statutory regulations

Appendix B – Project stages according to BS 5655-6:2011

Appendix C – Supplement to BS 8486-1:2007 + A1:2011

Appendix D – Supplement to BS 8486-2:2007 + A1:2011

Appendix E – Typical instructions for the safe release of passengers trapped in electric traction lifts

Appendix F – Typical instructions for the safe release of passengers trapped in a hydraulic lift

Appendix G – Typical instructions for the safe release of passengers trapped in a machine-room-less electric traction lift

Appendix H – Guidance in the provision of escalators

Appendix J – Guidance in the provision of lifting platforms and platform (wheelchair)

stair lifts

References

6 PARTICULAR CONSIDERATIONS IN THE HEALTHCARE ENVIRONMENT

6.1 Equipment considerations

Healthcare premises vary from a rural practice to a large high rise hospital. HTM 08-02 attempts to cover this range.

It therefore suggests a lifting platform might be used in a rural two storey health centre where access to the upper floor is occasionally required by mobility impaired persons (patients and staff). An example of this is the Sedbergh Health Centre.

Alternatively, in a large busy hospital which has only three floors, the installation of escalators (backed up by easily located lifts) might be a good solution. An example is the Whittington Hospital, London.

6.2 Design considerations

There are specific requirements particular to the health care environment. Here are some examples, without comment.

Example 1: Lighting

#46.131 The car should be illuminated to, at least, 100 Lux at floor level and on all control panels using a method of illumination that will not cause sensory discomfort to those patients lying on a trolley or bed (see also paragraphs 6.15–6.19).

Example 2: Medical assistance

#6.124 A trapdoor may need to be provided in the roof of the car:

- *in the event of a trolley/stretcher/bed lift breaking down between floors; and*
- *where the floor-to-floor distance is too great to provide medical assistance (not rescue) from a landing.*

#6.125 The need for such a trapdoor should only be provided after a rigorous risk assessment. The trapdoor should be held locked by a manual bolt accessible from the lift car roof, be interlocked electrically with the lift machine and comply with BS EN 81-20.

Example 3: Special access controls

#6.146 Some healthcare buildings may require special lift control features to restrict access in secure areas. It is normally sufficient to restrict access to the lift lobby. However, where high security is required, for example in mental health wards, it may be necessary to provide special facilities on the control panel to prevent unauthorised use of the lift. This can be achieved by replacing landing-call pushes with key switches or swipe card-reader switches.

Example 4 Emergency bed service (code blue control)

#6.151 An emergency bed service (EBS) facility should be available in any lift that serves a theatre area and is also available for general use. The facility should also be provided in emergency care areas where the entrance level is above or below the reception.

⁴ The symbol "#" indicates the HTM 08-02: 2016 clause.

7 PROFESSIONAL ROLES AND RESPONSIBILITIES

The DH has a tightly defined hierarchy for estates management represented by Figure 3.

In both HTM 08-02: 2010 and 2016 there are number of roles specific to lifts.

Designated Persons (Lifts)

3.4 The Designated Person (Lifts) is an individual appointed by a healthcare organisation (a board member or a person with responsibilities to the board) who has overall authority and responsibility for lifts and their safe operation. They have a duty to prepare and issue a general policy statement in relation to lifts and their safe operation, including the organisation and arrangements for carrying out that policy. The policy should include reference to mandatory examinations, record-keeping, emergency procedures and training of personnel.

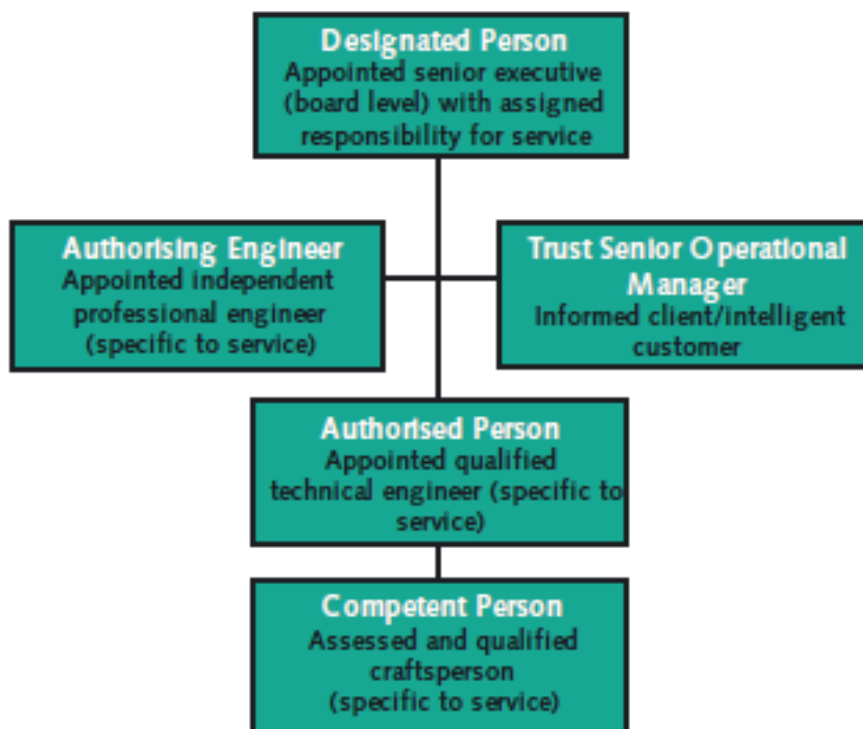


Figure 3: Professional roles

Note: The Designated Person reports to the healthcare organisation's Board of Directors.

Authorising Engineer (Lifts)

3.8 The Authorising Engineer (Lifts) is a chartered engineer with appropriate experience, whose appointment is the responsibility of the Designated Person (Lifts). The person appointed should possess the necessary degree of independence from local management to take action within this guidance including the implementation, administration and monitoring of the safety arrangements defined in BS 7255.

Authorised Person (Lifts)

3.10 The Authorised Person (Lifts) is nominated by the Authorising Engineer (Lifts) and has the key operational responsibility for the specialist service. The person will be qualified and sufficiently experienced and skilled to fully operate the specialist service. The person nominated should be able to demonstrate a thorough familiarisation with the system by having attended appropriate

professional courses. An important element of this role is the maintenance of records, quality of service and maintenance of system safety (integrity).

Competent Person (Lifts)

3.14 A Competent Person⁵ (Lifts) is a person, suitably trained and qualified by knowledge and practical experience, and provided with the necessary instructions to enable the required work to be carried out safely (from BS 7255).

Lift Steward

3.16 A Lift Steward is a person nominated by the Authorised Person (Lifts) to undertake simple daily monitoring of lifts in order to check their correct operation. See paragraphs 10.7– 10.13.

Lift Warden

3.17 Appointed by management, a Lift Warden will help to evacuate occupants during emergencies by using an evacuation lift. There are three types of lift warden:

- *Lift Warden (Floor);*
- *Lift Warden (Control); and*
- *Lift Warden (Car).*

3.18 Training in the use of equipment will be by the Authorised Person (Lifts) and by the site Fire Safety Adviser in relation to the emergency evacuation duties.

Lift Release Warden

3.19 A Lift Release Warden is a person, suitably trained and qualified by knowledge and practical experience, and provided with the necessary instructions to enable the safe release of passengers from lifts (see also paragraphs 9.15–9.34). They should be recommended by the Authorised Person (Lifts), be formally appointed by management, and should undergo refresher training annually.

Note: If, under the terms of the maintenance contract, the release of trapped passengers is always to be carried out by the lift maintenance contractor, rather than by in house staff, this post may not be required.

8 CONCLUDING REMARKS

This revised edition of the Health Technical Memorandum – Lifts gives comprehensive advice and guidance on the planning, design, installation, commissioning, testing, maintenance and operation of new lifts (vertical transportation) in healthcare buildings. It also provides supporting information that can be used in specifications for manufacturers, procurement contracts and the briefing of design teams.

Although this Health Technical Memorandum is applicable to new installations, it can be used for the upgrading and modernisation of existing installations, and is of use at various stages during the inception, design, commissioning, testing and maintenance of lift services. It is intended to be read by directors of estates and facilities, buildings services engineers, electrical and mechanical engineers, facilities managers, architects, premises designers, consulting engineers, equipment suppliers, equipment examiners, testers and maintainers. It can be used by bodies, organisations and

⁵ Not to be confused with the Competent Person under LOLER

individuals, who carry out the various duties indicated in this HTM for example when carried out by outside contractors or under a Public Finance Initiative (PFI) contract.

ACKNOWLEDGEMENTS

To the commentators of the draft: Michael Bottomley, Roger Howkins, Ian Jones, Nick Mellor, Vince Sharpe and many other industry members with whom the author has had discussions.

BIBLIOGRAPHY

Health Technical Memoranda are available from the UK Government's website at:

<https://www.gov.uk/government/collections/health-technical-memorandum-disinfectionand-sterilization>

Health Building Notes are available from the same site at:

<https://www.gov.uk/government/collections/health-building-notes-core-elements>

ANNEX A: About Health Technical Memoranda and Health Building Notes

Health Technical Memoranda (HTMs) give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare. The focus of Health Technical Memorandum guidance remains on healthcare-specific elements of standards, policies and up-to-date established best practice. They are applicable to new and existing sites, and are for use at various stages during the whole building lifecycle.

Health Building Notes (HBNs) give best practice guidance on the design and planning of new health care buildings and on the adaptation extension of existing facilities. They provide information to support the briefing and design processes for individual projects in the NHS building programme. All Health Technical Memoranda should be read in conjunction with the relevant parts of the Health Building Note series.

BIOGRAPHICAL DETAILS

Dr Gina Barney is well known to the world-wide lift industry, owing to her many activities in the field. Currently she is Principal of Gina Barney Associates, English Editor of *Elevatori*, Member of the Chartered Institution of Building Services Engineers (CIBSE) Lifts Group Committee, Member of the British Standards Institution (BSI) Lift Committees, UK expert to two International Standards Organisation TC178/WG6 Traffic design and WG10 Energy efficiency of lifts and escalators.

Dr Barney has had a wide ranging career starting in the electronics industry, which eventually led to the award of a doctorate on four quadrant thyristor power control of DC motors in 1965. After many years in universities at Birmingham, UMIST and Manchester as lecturer, senior lecturer and Director of Computer Networking, Dr Barney took early retirement in 1990 to concentrate on consultancy.

Her first contact with the lift industry was in 1968, when she researched Ward-Leonard lift control systems. Since then she has been active as a researcher, consultant, lecturer in the traffic design, traffic control and circulation areas. These “soft” subjects have been complimented by “hard” subjects of lift surveys, audits, contract supervision, safe release training, etc.

Dr Barney is the author of over 100 papers and is the author, co-author or editor of over 20 books (not all on lifts). Her main activities currently are technical writing (she is a member of the Society of Authors) with respect to standards and publications and various training courses. She is also a Member of the Academy of Experts.

Dr Barney has the degrees of BSc, MSc and PhD and the professional qualifications of CEng, FIEE and Eur.Eng. She was recently elected to an Honorary Fellowship of CIBSE for exceptional service to the Institution and is a Freeman of the City of London and was recently admitted to be a Liveryman of the Worshipful Company of Engineers.