

The Building Safety Act 2022: Questions and Answers

**A Practical Approach to Design and Management
of Higher-Risk Buildings**



Pat Perry

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A practical approach to design and management of higher-risk buildings

Pat Perry
CMIOSH

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Preface

The Building Safety Act 2022 represents a pivotal moment in the evolution of building safety regulations in the UK. This book, structured as a series of questions and answers, aims to provide a thorough understanding of the Act and its implications for various stakeholders in the construction industry.

This book follows the successful format of practical questions and answers found in previous titles such as *Fire Safety in Buildings: Questions and Answers* (2023), *CDM 2015: Questions and Answers: A practical approach to design, safety and wellbeing* (2021), *Health and Safety: Questions and Answers: A practical approach* (2016), and *Risk Assessments: Questions and Answers: A practical approach* (2017).

The Grenfell Tower fire in June 2017 was one of the UK's most devastating modern disasters and serves as a tragic backdrop to the necessity for reform. The fire exposed significant failures in fire safety measures, resulting in 72 fatalities and numerous injuries. The subsequent public inquiry revealed critical shortcomings in building safety regulations, underscoring the urgent need for comprehensive reforms.

The Building Safety Act 2022 is a new regulatory framework designed to address these failures and enhance safety standards, particularly for high-risk residential buildings. Key provisions include the establishment of the Building Safety Regulator, the introduction of Accountable Persons and the implementation of enforcement sanctions such as stop notices and compliance notices. The Act also emphasises the importance of competency standards, and the need for effective communication and collaboration among various stakeholders involved in building safety management.

This book covers various aspects of the Building Safety Act 2022, including the roles and responsibilities of Clients, Principal Designers and Principal Contractors, as well as fire safety measures in high-rise residential buildings. It provides guidelines on managing safety risks, outlines the concept of the Safety Case and the Safety Case Report, and discusses

the three gateways designed to enhance safety standards during the design, construction and occupation phases. It also covers the golden thread of information and addresses mandatory occurrence reporting, the new change control regime, residents' engagement strategy and the significance of construction products in relation to building safety.

By offering a pragmatic approach to conveying the information needed to comply with the legislation, this book aims to equip a broad range of professionals – including engineers, architects, project managers, company directors and health and safety professionals – with the knowledge and tools necessary to navigate the complexities of the Building Safety Act 2022 and contribute to the creation of safer built environments.

Pat Perry CMIOSH
April 2025

About the author

Pat Perry CMIOSH qualified as an environmental health officer in 1978 and spent the early years of her career in local government in the UK enforcing environmental health regulations, particularly health and safety law, which became her passion. Pat left local government and established a very successful Environmental Health Consultancy, which was subsequently integrated into a large regulatory compliance group. She has extensive knowledge of the retail, commercial and hospitality sectors and has served on various working parties on both health and safety and food safety issues. Pat regularly contributes to professional journals and appears as a speaker at related conferences and seminars. Her previous publications include *Fire Safety in Buildings: Questions and Answers* (2023), *CDM 2015: Questions and Answers: A practical approach to design, safety and wellbeing* (2021), *Health and Safety: Questions and Answers: A practical approach* (2016) and *Risk Assessments: Questions and Answers: A practical approach* (2017).

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Chapter 1

The Grenfell Tower fire

What was the Grenfell Tower fire?

The fire that destroyed Grenfell Tower in June 2017 was one of the UK's worst modern disasters.

Just before 01:00 on 14 June, fire broke out in the kitchen of a fourth floor flat at the 23-storey tower block in North Kensington, West London.

Within minutes, the fire had accelerated up the exterior of the building and then spread to all four sides. By 03:00, most of the upper floors were engulfed in flames.

Seventy-two people died and many suffered severe injuries from burns and smoke inhalation.

A fire in the multi-storey building was not expected to spread as rapidly as it did. Such speed took the emergency services by surprise and they were ill equipped to deal with it.

How did the fire start?

The fire began due to an electrical fault 'in or around' a Hotpoint fridge-freezer in Flat 16 on the fourth floor of the tower block.

The occupier immediately called the fire brigade, which logged the call at 00:54.

Four fire engines were sent to the scene, the first arriving at 00:59.

The first fire crew entered the flat at 01:07 – an approximate timing taken from a thermal imaging camera. They initially searched the bedrooms and did not enter the kitchen until 01:14.

In the kitchen, a firefighter described seeing an 'isolated curtain of flame from about 2–3 feet in the air to the ceiling'.

Thermal images captured by the fire crew appear to show that 'hot fire gases and flames had spread across the window space'.

As the fire crew dealt with the fire in the fridge-freezer, their thermal images also appear to show falling embers outside the kitchen window.

Mobile phone images taken by the tenant from outside Grenfell Tower approximately 11 min after his first 999 call show an orange glow of flames around the kitchen window, and later a fire burning more intensely in the area of the window filler panel and extractor fan.

Subsequent photos suggest that the ‘fire was continuing to develop and grow’, by 01:09 becoming ‘external to the building’.

Although the timings provided are approximate, it appears that the fire had spread to the cladding before the firefighters had entered the kitchen.

How did the fire spread?

From the fourth floor, the fire spread rapidly upwards and across the eastern side of the building. From there, it spread across the north face of the tower.

Mobile phone videos show the blaze reaching the top floor on the east side of Grenfell Tower by about 01:26, less than 30 min after firefighters had arrived.

In a report to the Grenfell Public Inquiry, fire safety engineer Dr Barbara Lane identified the fire spreading vertically up the tower columns, and ‘laterally along the cladding above and below the window lines (and) the panels between windows’.

The fire had spread to the north side of the tower by 01:42, Dr Lane recorded.

At 01:52, the fire also began travelling across the eastern side towards the south in the other direction.

At 02:06, London Fire Brigade declared the fire a ‘major incident’. At this point, some 40 fire engines were either at or en route to the scene.

Grenfell Tower had a ‘stay put’ fire policy – essentially, the building design would contain a fire in a single flat for as long as it took fire crews to bring it under control.

On the night, many residents were told to remain in their flats by the emergency services, only to become trapped as the fire blazed out of control and thick, poisonous smoke spread up the single narrow stairwell.

Dr Lane said that the stay put policy had ‘substantially failed’ by 01:26 – less than 30 min after the first firefighters were at the scene.

Some people ignored the stay put advice and made it down the stairs to safety.

A total of 65 people were rescued from the building by firefighters.

Some residents went upwards and sought refuge in flats of friends and neighbours on the upper floors. Twenty-four people died on the top floor of the tower block.

By 02:10, multiple internal fires could be seen burning inside the building.

At 02:22, fire had spread to the south side of the tower and by 02:30 it was reported that the eastern side of the building was ‘fully involved in fire’.

The stay put advice was finally abandoned at 02:47, when the incident commander gave the order to ‘advise people to make efforts to leave the building’.

Counsel to the Grenfell Inquiry, Richard Millet QC, told the Public Inquiry hearing that 144 people managed to evacuate before 01:38, but only 36 after the stay put guidance was abandoned.

By 02:51, the fire had reached the western side. At this point, some 63 flats were on fire and more than 100 people remained in the building.

At 04:30, the whole building was engulfed, with more than 100 flats on fire.

The blaze did not burn itself out until 01:14 BST on Thursday – 24 hours later.

What caused the fire to spread so quickly?

The most significant part of the renovation of Grenfell Tower was the addition of external cladding. This consisted of aluminium sheets bonded to a central plastic (polyethylene) core (aluminium composite material (ACM)) cladding.

In his report to the Public Inquiry, Professor Luke Bisby said evidence ‘strongly supports’ the theory that the polyethylene material in the cladding was the primary cause of the fire’s spread.

The ACM (aluminium composite material) product on Grenfell Tower incorporates a highly combustible polyethylene polymer filler which melts, drips, and flows at elevated temperature. The polyethylene filler material is expected to release large amounts of energy during combustion.

Images after the fire show evidence of melted cladding on the tower’s columns. His report also suggests that vertical cavities within the cladding structure played a role in the spread of the fire, as did the insulation, although evidence was inconclusive.

A number of other flammable materials, including a polyurethane polymer foam insulation board that pre-dated the refurbishment were also present and may have contributed, Professor Bisby found.

In her report, fire expert Dr Barbara Lane identifies combustible materials used in the refurbishment of the tower’s windows as another factor in allowing the fire to spread.

The Grenfell Inquiry heard that the building’s smoke extraction system was not working, and that firefighters experienced problems with the water supply because there were no ‘wet risers’ – water-filled pipes running up the building to be used in the event of fire.

Giving evidence to the Inquiry, Dr Lane said exposed gas pipes installed in 2016 were another contributory factor and none of the flat doors met current fire resistance standards.

Work done on the lifts in 2005 and 2012–2016 left them unfit for evacuating vulnerable residents and aiding the emergency response, Dr Lane said.

Numerous fire protection measures failed and stair lobbies became full of toxic smoke.

Glass in windows failed due to the heat generated by the fire and allowed flames to penetrate flats.

A catalogue of failures in respect of fire prevention and fire precautions caused the fire to spread rapidly with devastating consequences.

Pat Perry

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Chapter 2

The Public Inquiry

Why was a Public Inquiry set up in relation to the Grenfell Tower fire?

The Grenfell Tower fire was a major catastrophe causing the loss of many lives. It should not have happened.

The Inquiries Act 2005 provides a comprehensive statutory framework for inquiries set up by Ministers to look into matters of public concern. The Grenfell Tower fire was a matter of public concern. It had caused outrage among the public. People wanted the circumstances of the fire investigated and they wanted answers as to why it happened. People wanted those responsible to be held accountable for their failings.

The Prime Minister at the time announced on the day after the fire that there would be a Public Inquiry.

The Inquiry's Terms of Reference were

- (i) to examine the circumstances surrounding the fire at Grenfell Tower on 14 June 2017, including
 - (a) the immediate cause or causes of the fire and the means by which it spread to the whole of the building;
 - (b) the design and construction of the building and the decisions relating to its modification, refurbishment and management;
 - (c) the scope and adequacy of building regulations, fire regulations and other legislation, guidance and industry practice relating to the design, construction, equipping and management of high-rise residential buildings;
 - (d) whether such regulations, legislation, guidance and industry practice were complied with in the case of Grenfell Tower and the fire safety measures adopted in relation to it;
 - (e) the arrangements made by the local authority or other responsible bodies for receiving and acting upon information either obtained from local residents or available from other sources (including information derived from fires in other buildings) relating to the risk of fire at Grenfell Tower, and the action taken in response to such information;
 - (f) the fire prevention and fire safety measures in place at Grenfell Tower on 14 June 2017;

- (g) the response of the London Fire Brigade to the fire; and
 - (h) the response of central and local government in the days immediately following the fire; and
- (ii) to report its findings to the Prime Minister as soon as possible and to make recommendations.

Sir Martin Moore-Bick was appointed Chairman of the Inquiry. He was a former Court of Appeal Judge and was deemed by the Lord Chancellor to be suitable for the post. He could start the Inquiry immediately thus forestalling any criticisms of the government delaying its response to the fire.

Sir Moore-Bick set the agenda for the Inquiry and determined its timetable. He appointed a team of officials to assist him and assumed the powers of the Inquiries Act 2005 to demand evidence be submitted from whomever he deemed necessary.

How long did the Public Inquiry take to finalise all hearings and publish its final report?

Sir Martin Moore-Bick acknowledged in a statement that it had taken 7 years for the Inquiry into the disaster to be concluded because of the number of failings it had uncovered and the time it had taken to investigate them all. ‘As the investigation progressed, it uncovered many more matters of concern,’ he said.

When were the reports published?

The Public Inquiry reported in two stages. The Phase One Report was published in late October 2019 and the final, Phase Two Report was published in late September 2024.

What was the outcome of the Public Inquiry?

Both reports made recommendations to the government about shortcomings in legislation and enforcement procedures, emergency services responses to major incidents, construction industry standards, design and management of high-rise buildings and numerous miscellaneous matters.

Fire safety laws were strengthened, Building Regulations were amended, building safety systems were introduced and a new regulatory framework was introduced.

The Building Safety Act 2022 was passed and came in to force in stages from 2022.

High-rise, high-risk residential buildings were to be controlled for the first time.

What were the recommendations in the Inquiry Phase One Report?

Phase One of the Inquiry Report made 46 recommendations relating to key topics explored during the Inquiry hearing.

Many of them have been actioned by the government in association with the National Fire Chiefs Council and London Fire Brigade.

Recommendation 33.10a

[References reflect the numbering from the Inquiry Report, i.e. Chapter 33.]

That the owner and manager of every high-rise residential building be required by law to provide their local fire and rescue service with information about the design of its external walls together with details of the materials of which they are constructed and to inform the fire and rescue service of any material changes made to them.

Recommendation 33.10b

That all fire and rescue services ensure that their personnel at all levels understand the risk of fire taking hold in the external walls of high-rise buildings and know how to recognise it when it occurs.

Recommendation 33.11a

That the London Fire Brigade review, and revise as appropriate, Appendix 1 to Policy Number 633 to ensure that it fully reflects the principles in Generic Risk Assessment 3.2.

Recommendation 33.11b

That the London Fire Brigade ensure that all officers of the rank of Crew Manager and above are trained in carrying out the requirements of Policy Number 633 relating to the inspection of high-rise buildings.

Recommendation 33.12a

That the owner and manager of every high-rise residential building be required by law to provide their local fire and rescue services with up-to-date plans in both paper and electronic form of every floor of the building identifying the location of key fire safety systems.

Recommendation 33.12b

That the owner and manager of every high-rise residential building be required by law to ensure that the building contains a premises information box, the contents of which must include a copy of the up-to-date floor plans and information about the nature of any lift intended for use by the fire and rescue services.

Recommendation 33.12c

That all fire and rescue services be equipped to receive and store electronic plans and to make them available to incident commanders and control room managers.

Recommendation 33.13a

That the owner and manager of every high-rise residential building be required by law to carry out regular inspections of any lifts that are designed to be used by firefighters in an emergency and to report the results of such inspections to their local fire and rescue service at monthly intervals.

Recommendation 33.13b

That the owner and manager of every high-rise residential building be required by law to carry out regular tests of the mechanism which allows firefighters to take control of the lifts and to inform their local fire and rescue service at monthly intervals that they have done so.

Recommendation 33.14a

That the London Fire Brigade review its policies on communications between the control room and the incident commander.

Recommendation 33.14b

That all officers who may be expected to act as incident commanders (i.e. all those above the rank of Crew Manager) receive training directed to the specific requirements of communication with the control room.

Recommendation 33.14c

That all control room operators of Assistant Operations Manager rank and above receive training directed to the specific requirements of communication with the incident commander.

Recommendation 33.14d

That a dedicated communication link be provided between the senior officer in the control room and the incident commander.

Recommendation 33.15a

That the London Fire Brigade's policies be amended to draw a clearer distinction between callers seeking advice and callers who believe they are trapped and need rescuing.

Recommendation 33.15b

That the London Fire Brigade provide regular and more effective refresher training to control room operators at all levels, including supervisors.

Recommendation 33.15c

That all fire and rescue services develop policies for handling a large number of fire survival guidance calls simultaneously.

Recommendation 33.15d

That electronic systems be developed to record fire survival guidance information in the control room and display it simultaneously at the bridgehead and in any command units.

Recommendation 33.15e

That policies be developed for managing a transition from 'stay put' to 'get out'.

Recommendation 33.15f

That control room staff receive training directed specifically to handling such a change of advice and conveying it effectively to callers.