

# BUILDING SAFETY CASES

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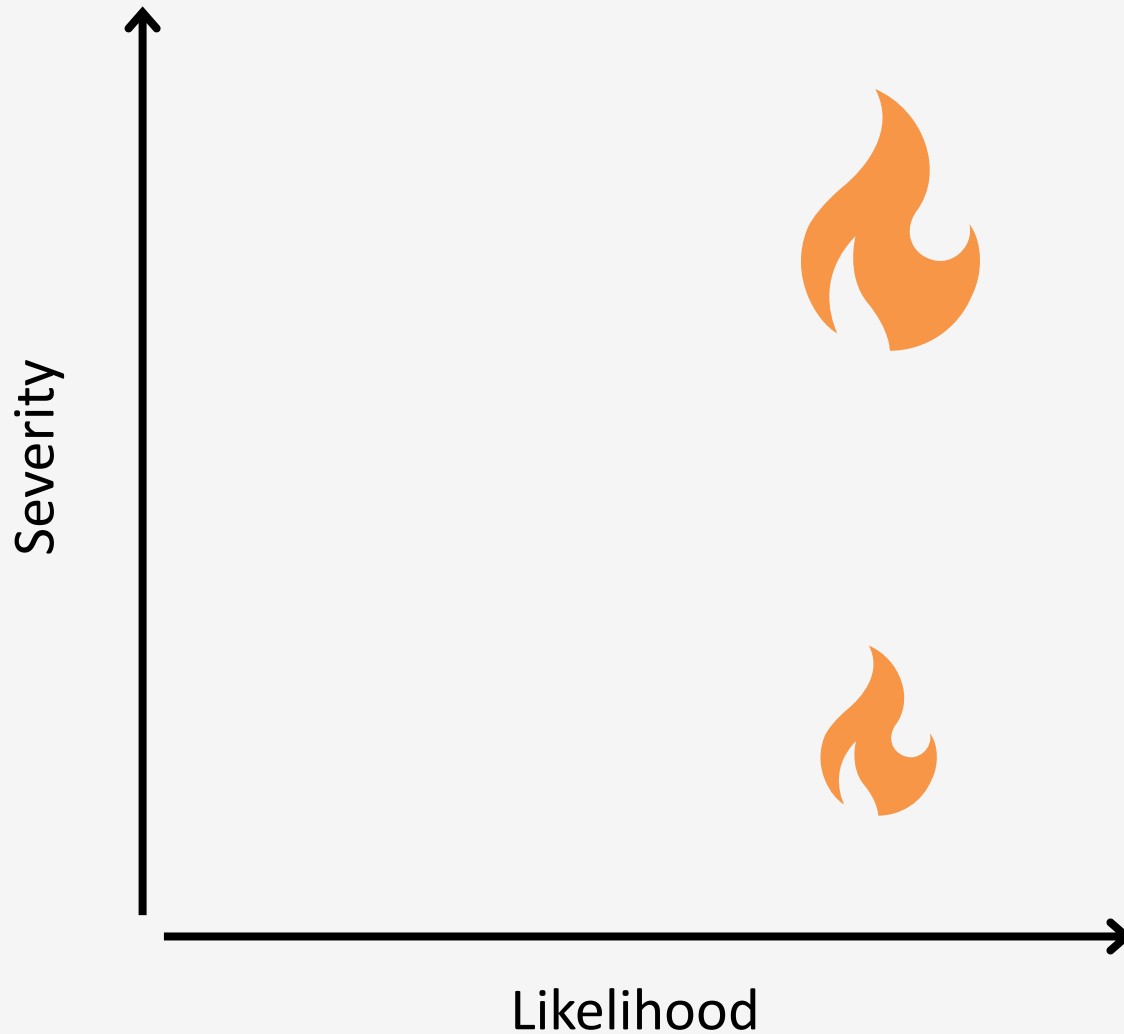


# Kings Cross Fire

- Foreseeable
- Avoidable
- Risk was considered as low



# Tip – start with HAZID



If we haven't understood the hazard, we will inevitably assess the risk incorrectly.

If we have assessed the risk as low, the measures in place to control it may be insufficient.

# KEY PROVISIONS OF THE ACT



## Section 83

An accountable person for an occupied higher-risk building must as soon as reasonably practicable after the relevant time **assess the building safety risks** as regards the part of the building for which they are responsible.



## Section 84

An accountable person for an occupied higher-risk building must **take all reasonable steps** for the following purposes:

- (a) preventing a building safety risk materialising as regards the part of the building for which they are responsible;
- (b) reducing the severity of any incident resulting from such a risk materializing



## Section 85

The principal accountable person for an occupied higher-risk building must prepare a report (a “**safety case** report”) containing:

- (a) any assessment of the building safety risks made under section 83 by an accountable person for the building, and
- (b) a brief description of any steps taken under section 84 by an accountable person for the building.

# REASONABLY FORESEEABLE

Was the Grenfell tragedy reasonably foreseeable?

## Consequence

Was a catastrophic fire in a high-rise residential building reasonably foreseeable?

## Scenario

Was a kitchen fire leading to external cladding ignition a reasonably foreseeable chain of events?

## Failure Mode

Was vertical fire spread via the external wall system a reasonably foreseeable failure mode?

## Cause

Were regulatory failure, poor product testing and miscommunication of risk reasonably foreseeable causes?



Why have  
over 70% of  
BAC  
applications  
been refused?

# KEY PROVISIONS OF THE ACT

If we keep Sections 83 and 84 in mind, the logic of the safety case remains clear:

- 1) Identify the hazard (Section 83 – assessment)
- 2) Explain how control could be lost (risk analysis)
- 3) Describe measures in place to prevent occurrence (Section 84(a))
- 4) Describe measures that reduce severity if it does occur (Section 84(b))
- 5) Explain how we know those measures work and will continue to work (ongoing compliance)

This is why we structure safety cases as:

**Claim → Supporting Arguments → Evidence**

# Assessment criteria



Health and Safety  
Executive

## Assessment of applications for a building assessment certificate (BAC)

The Building Safety Regulator

Applies to: England

Document version: 1

Last updated: 18 December 2024

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# Are you jumping straight to Section 84?

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“

We inspect balconies annually

”

“

We have smoke control

”

“

We comply with standards

”

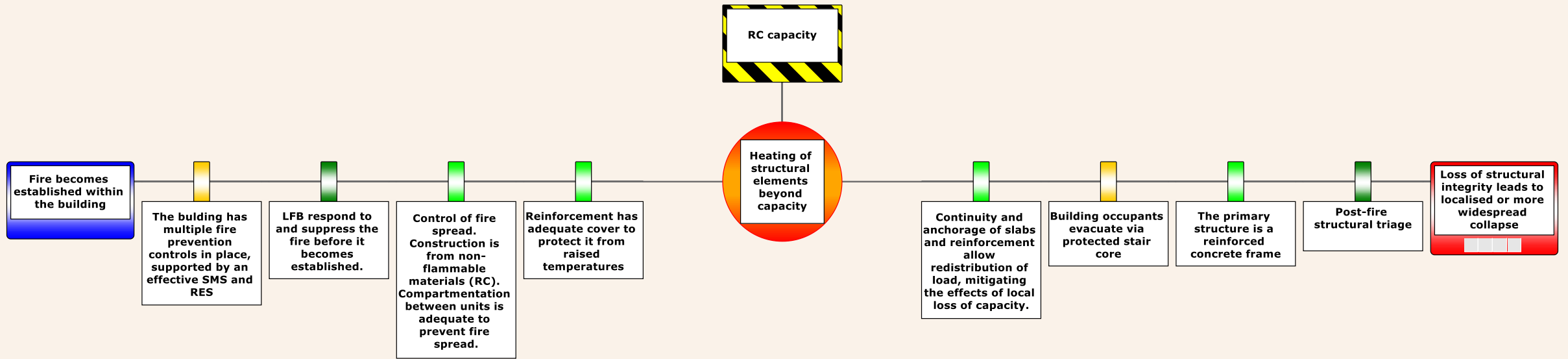
# Tip – break it down

- **What are we looking at?** (system description and system operating context)
- **What could go wrong?** (Hazard identification and analysis)
- **How bad could it be and what are the major threats?** (Risk estimation)
- **What has been done and what else could be done, about it?** (Risk and all reasonable steps evaluation, risk mitigation/reduction and acceptance, safety management)
- **What if it happens?** (emergency and contingency arrangements)

# BSR feedback (RFI) – slabs

## Requirement

- Ascertain the slab type, thicknesses and concrete covers of the building
- Demonstrate an understanding of what the effective fire resistance of the structures are
- Assess what the risks are in relation to effective fire resistance levels
- Assess the risk of structural failure due to fire based on this information
- Explain how the risks identified are being monitored, managed and mitigated



Threat	Preventative controls	Interim event	Recovery controls	Foreseeable consequences	Likelihood	Severity	Risk rating
Fire becomes established in building,	As per the bowtie	Structural elements heated beyond capacity	As per bowtie	Progressive collapse of building following localised failure of load-bearing elements. Loss of egress routes	Very Low	Catastrophic	Very Low

# Translating into the safety case

Claim

Structural elements  
achieve the required  
fire resistance  
period

Arguments

The fire resistance of  
load-bearing elements  
is understood

The required fire  
resistance period  
aligns with the fire  
strategy and  
applicable design  
standards

Ongoing management  
ensures effective fire  
resistance is  
maintained over time

Evidence

Cover meter survey

Drawings

# BSR Feedback – balconies

## Requirement

- Describe the type of balconies present and confirm how these are fixed back to the primary structure
- Assess what the risks are in relation to structural failure of the balconies and panels attached to them
- Explain how the risks identified are being monitored, managed and mitigated including details of any inspections of the balconies and the façade fixings,
- If not already in effect, put in place a specific regime of inspections of the balconies and the façade fixings, including type and frequency of inspections



# Building X



- 
- 
- 
- 
- 
- 
- 
- 

← + Add Objective

- Objective  
 All reasonable steps have been take... 1 3 ▶
- Claim  
 All reasonable steps have been ta... 1.1 3 ▶
- Claim  
 All reasonable steps have been ta... 1.2 3 ▶
- Sub Claim  
 The primary load-bearing stru... 1.2.1 1 ▶
- Sub Claim  
 There is no history of structur... 1.2.2 ▶
- Sub Claim  
 The design, materials and con... 1.2.3 3 ⚠
- Argument  
 The cantilever balconies a... 1.2.3.1(a) ▶
- Argument  
 Balcony components, incl... 1.2.3.2(a) ▶
- Argument  
 Balconies are detailed to ... 1.2.3.3(a) ▶
- Claim  
 1.3 2 ▶

Argument

**Balcony components, including structural elements and balustrades, are made from suitable materials that are adequately robust and corrosion resistant.**

⚠ Evidence Incomplete

✎ Edit 🗑

- ⚠ Evidence Incomplete
- ✔ Valid

Description

Cantilever balconies typically fail due to loss of capacity at the fixed support, most commonly caused by reinforcement corrosion, loss of bond or inadequate anchorage; these failures are usually preceded by cracking, spalling, staining and progressive deflection concentrated at the balcony root.

There were no visible signs of distress to the balconies during an inspection in Sep 25:

From the visual structural survey conducted by ABC Structural Engineering the following was concluded:

*"Inspection of the concrete balcony construction did not indicate any obvious structural defects and there was no sign of cracking to the concrete surfaces".*

*The balustrade supports appeared to be rigid and well maintained in all locations".*

*There are no visible cracks, spalling concrete or signs of degradation present. We recommend a visual inspection is conducted once every 2 years and a more in depth concrete assessment at 5 years.*

Context

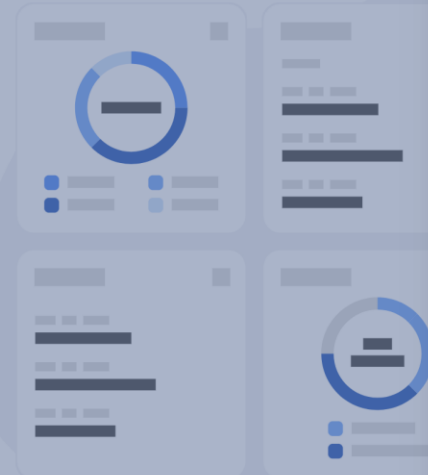
Criteria to Validate

🔍 at least one piece of Evidence has been added

+ Safety Case Templates



+ Add Objective



## Safety Case

Please select a section from the left

### Create Safety Case Template

General Information

Please select one of the following templates to create a safety case template for this project.

**System Safety Case Templates** Required

Select Template

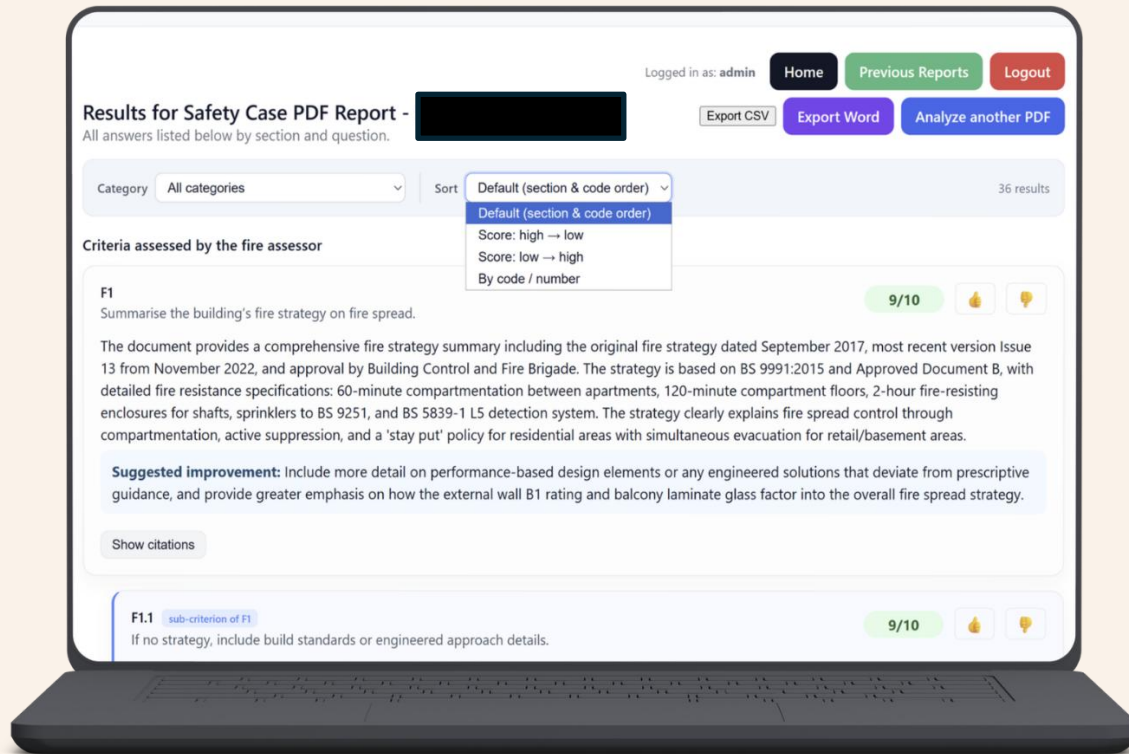
- Generic purpose built flats - aligned to BSR criteria
- Large Panel System
- Mansion block - simultaneous evacuation
- Office to residential conversion
- Purpose-Built Flats (Pre-1960) – Stay Put

**Warning**

The **Owner & Approvers** will be set as the **SC Owner**, the **Due Dates** will be set as **today's date**. All elements can be edited once created.

Cancel Create Safety Case Template

# Meet Cascade Verify



Submitting a building safety case to the regulator shouldn't feel like a leap of faith, but with the average submission costing £23,000 in regulator fees alone, the stakes are too high to guess.

Cascade Verify gives you an expert review before it counts. Upload your report and instantly get a detailed score across every BSR criterion, with clear guidance on your weakest areas and exactly what needs to change.

Built by the Cascade Risk team on real submissions and the BSR's own guidance.

Submit stronger. Spend less.



## SERVICES WE OFFER

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Cloud-based, digital safety case software



Safety case review – gain confidence you have satisfied the assessment criteria



HAZID workshop



Safety case authoring; safety case mapping (to Cascade)



Building safety training – CPD and IIRSM accredited face to face and e-learning courses

Contact us at [info@cascade-risk.com](mailto:info@cascade-risk.com)

[www.cascade-risk.com](http://www.cascade-risk.com)