

Loss Prevention Standards – Asset Classes

Sprinkler Systems – Review of Hazards

Version: 1.4

Date: 29th October 2024

Businesses are constantly evolving, and it is critical to regularly review the premises and its operations to ensure the sprinkler system design keeps pace.



Introduction

Sprinkler system design is specifically based on the occupancy hazard of the premises and the storage within it. If there are changes to any of these areas, it can seriously affect the system's capability to control a fire. Businesses are constantly evolving, and it is critical to regularly review the premises and its operations to ensure the sprinkler system design keeps pace. Sprinkler systems are typically designed and installed to a set of codes such as BS EN 12845, National Fire Protection Association (NFPA) or Factory Mutual (FM). These codes detail the type, spacing and location of sprinkler heads, the type of water supply, and the amount of water required.

Review of Hazard

Technical Bulletin 203 of BS EN 12845 states 'A review of hazard should be a continuous process undertaken by the user. Where changes occur that might change the effectiveness of the sprinkler protection, immediate remedial action should be taken.'

At quarterly intervals the process should be formalised either by a review by a competent person, or submission of a completed return to the sprinkler servicing contractor responsible for the review of hazard during the yearly routine. The quarterly review of hazard may be undertaken by a competent person who is not an employee of the user, for example, an engineer from a sprinkler servicing contractor.

The effect of any changes in structure, occupancy, storage configurations, heating, lighting, building equipment, hazard classification, or installation design should be identified in order that the appropriate corrective action may be implemented immediately.

The review should be carried out using one of the following procedures:

- An inspection by a competent person, for example, by an engineer from the sprinkler servicing contractor
- The user should submit a completed return to the sprinkler servicing contractor detailing any changes (as specified in Technical Bulletin 203)

The review should consider whether since the last review:

- Any structural alterations have been made that necessitate modifications to the sprinkler system, including low-level office installation or partition relocation
- There are any new buildings, mezzanines or extensions
- There has been a change of use to all or any part of the protected building(s)
- Any new hazards or processes have been introduced
- The ambient temperature range is still within acceptable limits for the design of the sprinkler system
- Any painting or decorating has been undertaken
- The frost protection measures are adequate
- There have been any significant changes to production, or plant and equipment quantity and location
- The storage type is still consistent with the sprinkler system design
- The design of rack sprinklers is consistent with the storage category
- Flues (horizontal and vertical) within the storage racks are kept clear, as designated by design requirements
- Minimum clearances are maintained between stored items and sprinkler heads
- The nature of goods stored or their packaging has changed, and if this alters the category of stored goods
- There have been any changes to storage arrangements or storage heights
- A suitable maintenance contract is in force where a smoke or heat detection system interacts with the sprinkler system
- There have been any changes to the cause and effect routine
- There have been any problems with, or alterations to, the sprinkler system

Checklist

A generic Review of Hazards Checklist is presented in Appendix 1 which can be tailored to your own organisation.

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Additional Information

Relevant Loss Prevention Standards include:

- Sprinkler Systems – How they Operate
- Sprinkler Systems – Flexible Connections
- Sprinkler Systems – Winter Precautions

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Email us at riskadvice@aviva.com or call 0345 366 6666.*

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Appendix 1 – Review of Hazards Checklist



Location	
Date	
Completed by (name and signature)	

	Review of Hazards Checklist	Y/N	Comments
1.	Since the last review, have any structural alterations been made that necessitate modifications to the sprinkler system (including low-level office installation and partition relocation)?		
2.	Are there any new buildings, mezzanines or extensions?		
3.	Has there been a change of use to all or any part of the protected building(s)?		
4.	Have any new hazards or processes been introduced?		
5.	Is the ambient temperature range still within acceptable limits for the design of the sprinkler system?		
6.	If any painting or decorating has been undertaken since the last inspection, have any sprinkler heads been painted or protective coverings been removed?		
7.	Are frost protection measures adequate, with a minimum 4°C temperature maintained for wet sprinkler systems and all trace heating in working order?		
8.	Have there been any significant changes to production, or to plant and equipment quantity and location?		
9.	Is the storage type still consistent with the sprinkler system design?		
10.	Is the design of rack sprinklers consistent with the storage category?		
11.	Are flues (horizontal and vertical) within the storage racks kept clear, as designated by design requirements?		

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	Review of Hazards Checklist Contd.	Y/N	Comments
12.	Are minimum clearances maintained between stored items and sprinkler heads?		
13.	Has the nature of the goods stored or their packaging changed? If so, does this alter the category of stored goods?		
14.	Have there been any changes to storage arrangements?		
15.	Have there been any changes in storage heights?		
16.	Where a smoke or heat detection system interacts with the sprinkler system, is a suitable maintenance contract in force? Have there been any changes to the cause and effect routine?		
17.	Have there been any problems with the sprinkler system?		
18.	Have there been any alterations to the sprinkler system?		
19.	Are all areas of the sprinkler system 'live'?		
20.	Are all stop valves including zone valves fully open?		
21.	Additional comments:		

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