HOW THE FIRE INDUSTRY CAN INFLUENCE THE FUTURE OF IOT

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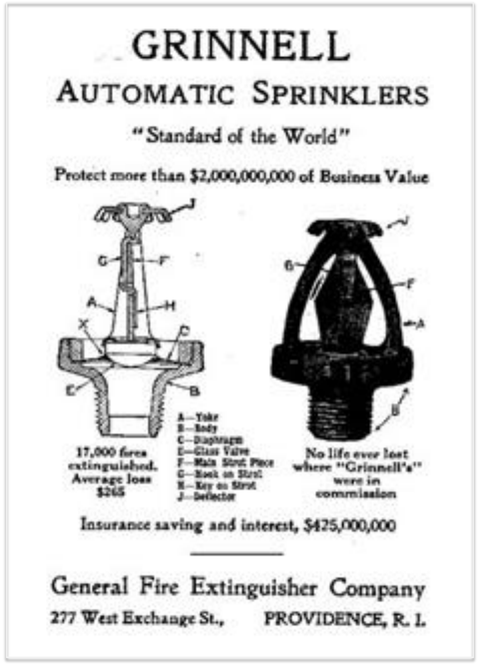
IWMA
International Water Mist Association

AGENDA

1. Introduction
2. The history of fire sprinklers
3. The problems associated with fire sprinklers
4. Parallels with the insurance industry
5. The insurtech revolution
6. The future of fire sprinklers

FREDERICK GRINNELL



1882 FIRST PRACTICAL FIRE SPRINKLER

1890 GLASS DISC SPRINKLER

COMMONPLACE DESIGN

STANDARDS

Table 4-1 Sprinkler System and Water Supply Design Requirements for Sprinklered Facilities

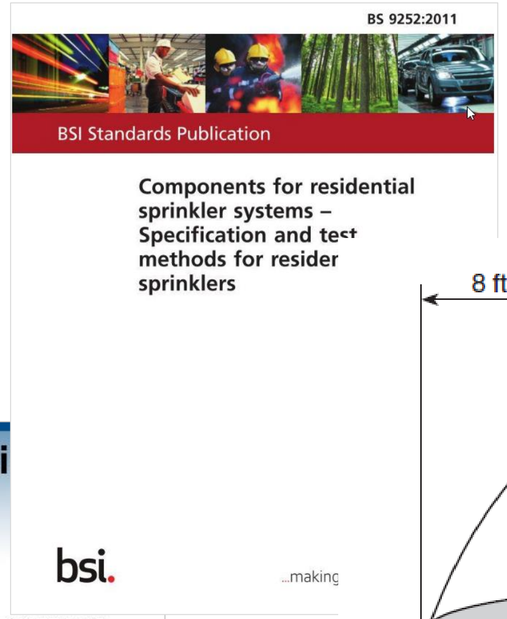
OCCUPANCY CLASSIFICATION[a]	SPRINKLER SYSTEM		HOSE STREAM ALLOWANCE L/Min (GPM)	DURATION OF SUPPLY Minutes
	DESIGN DENSITY L/min/m² (GPM/ft²)	DESIGN AREA m² (ft²)[b]		
Light Hazard	4.1 (0.10)	280 (3000)	950 (250)	60
Ordinary Hazard Group 1	6.1 (0.15)	280 (3000)	1900 (500)	60
Ordinary Hazard Group 2	8.2 (0.20)	280 (3000)	1900 (500)	90
Extra Hazard Group 1	12.2 (0.30)	280 (3000)	2840 (750)	120
Extra Hazard Group 2	16.3 (0.40)	280 (3000)	2840 (750)	120

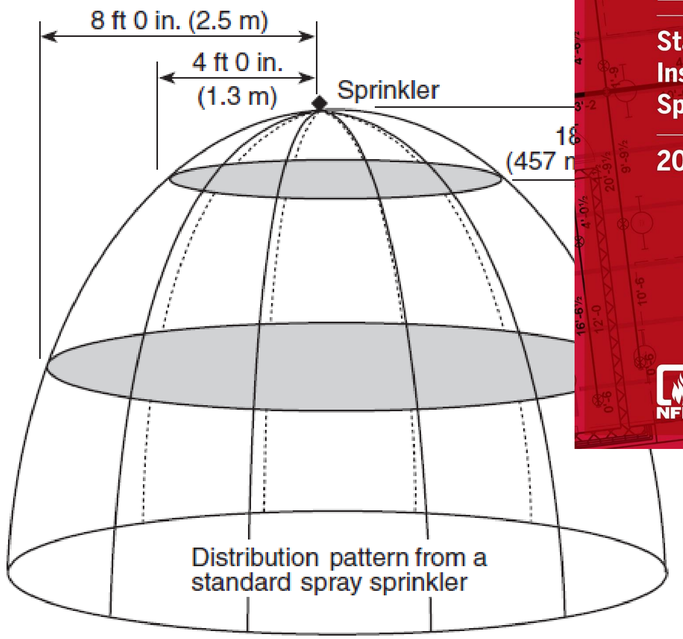
[a] Refer to Appendix B for occupancy hazard classification.
[b] See paragraph 4-2.3.3.

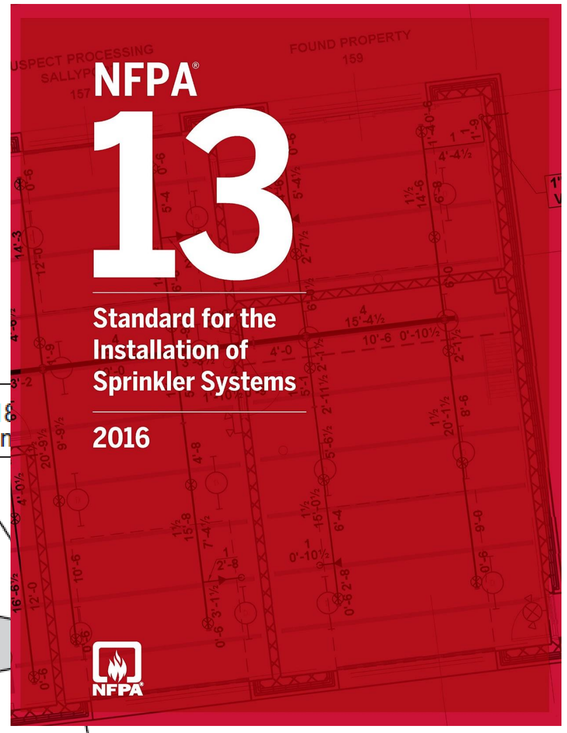
Note: The protection requirements identified in
practices followed throughout civilian industry f
4-1 represents the minimum requirements nece
mission, and property loss prevention. Table 4
by Factory Mutual of loss experience from 195
occupancies from 1966 to 1977 and from 1981

Design and Installati Standards

- Other fire sprinkler standards
  - Used when:
    - Level of hazard exceeding the scope of NFPA 13
    - Specific design requirements for a hazard
    - The approving authority requires the use of a different standard
  - NFPA 30, 30B, 214, 804
  - Insurance providers may develop own standards.
  - Design professional determines best to use.







PROBLEMS WITH TRADITIONAL FIRE SPRINKLERS

POOR RELIABILITY

DIFFICULT TO RETROFIT

WATER DAMAGE

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EFFECTIVENESS

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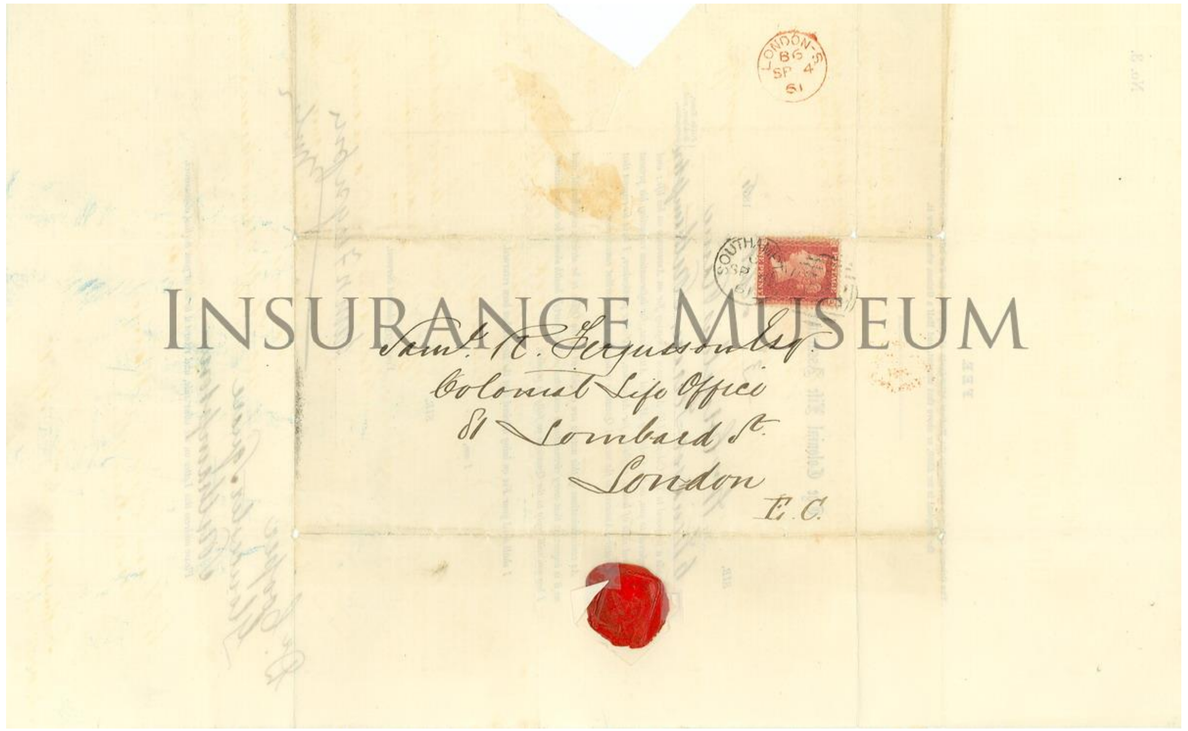
BACKGROUND OF MODERN INSURANCE



1861 UNDERWRITERS SOLD THE FIRST PAPER POLICIES
TO PROTECT LONDON HOMES FROM FIRE

PARRALELS

1. MANDATED
2. PRICE SENSITIVE
3. IGNORED DURING ITS LIFETIME
4. SMALL OVERSIGHT CAN RESULT IN PROBLEMS
5. POOR CUSTOMER SATISFACTION WHEN ACTIVATED

MODERNISATION OF INSURANCE

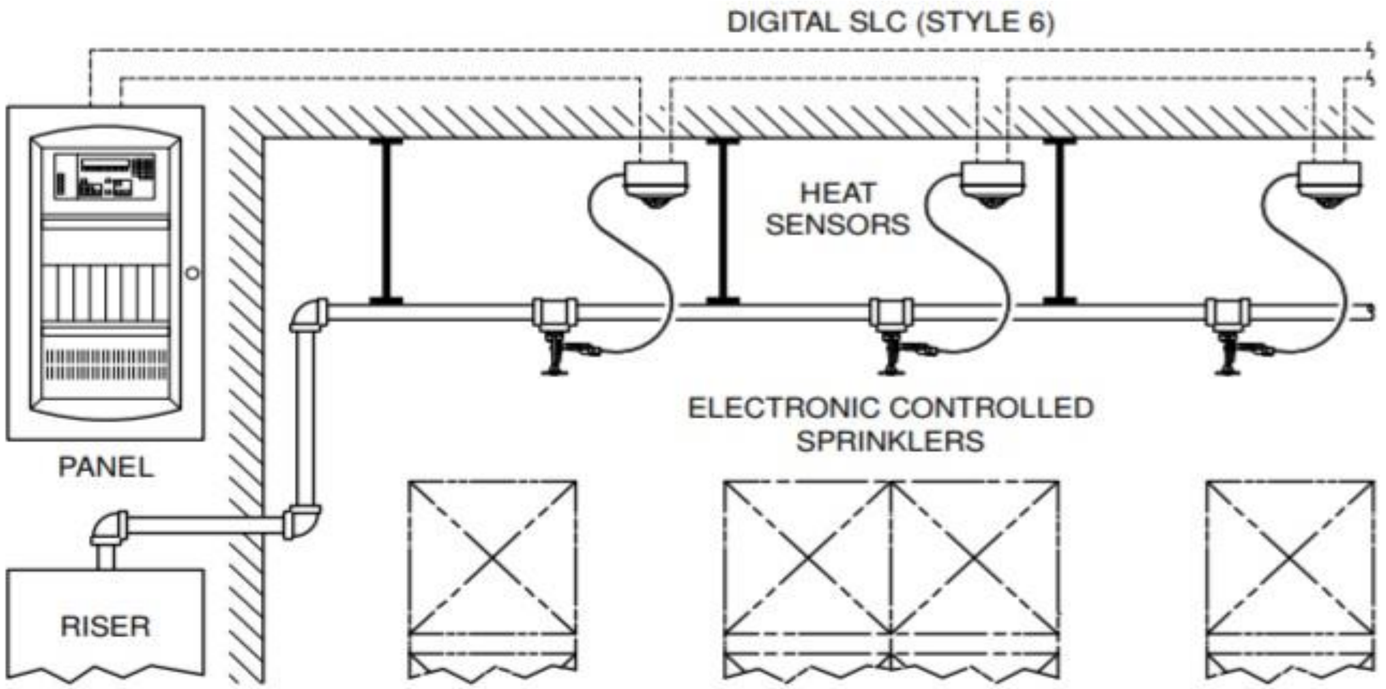
MODERNISATION OF FIRE SPRINKLERS

USER ENGAGEMENT

RETROFITTABLE

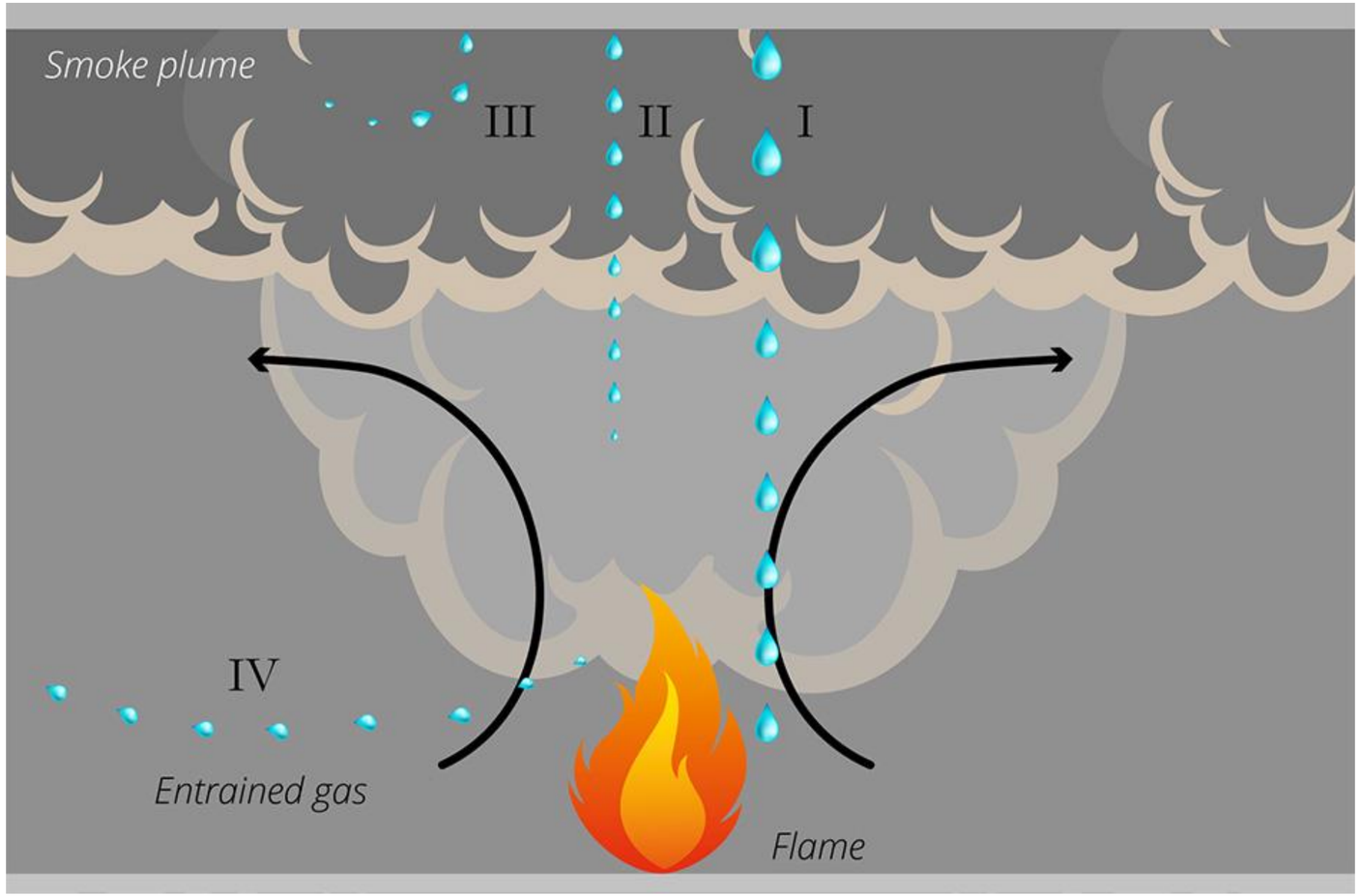
WATER DAMAGE

MODERNISATION OF FIRE SPRINKLERS



ELECTRONIC CONTROLLED SPRINKLERS

ARCHIMEDES PRINCIPLE OF BUOYANCY



FIRE SPRINKLER & INSURANCE CONVERGE

SPRINKLERS 0-10%
despite of the water damage

IOT SMOKE ALARM 0-5%
connected to Wi-Fi to report status

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a smarter modern fire sprinkler ~30%?