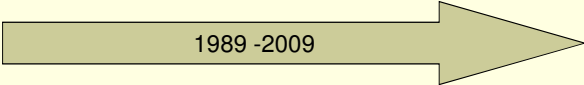


Engineers Ireland I.S.3218 Planned Revision

16th November 2011
Frank Pierce
WG3218

Why Revise

1989 -2009



- Outdated
- Task Driven
- Ignored other Standards
- Loose responsibilities
- Loose definitions
- 20 Years in existence
- Process Driven
- Harmonisation of Standards
- Identified Responsibilities
- Clear definitions

Ongoing Process of Revision



Objective: Protection of Life

Release Timetable

- Public Comment
 - Closed Oct 3rd 2011
- Review of Comments
 - Target : Completion end December
- Publication Editing
 - Target: January/ February
- Release
 - Likely: Start March 2012

Transition

- Period : Six Months
- Design
 - Existing FSC – Run with old standard
 - New Design – Use new standard
- Commissioning, Installation, User Responsibility
 - Use New Standard
- Service & Maintenance
 - Use New Standard

Section 3 :Definitions

- Updates and Clarifications added
- Examples
 - 3.80 Mixed User building
 - A premises in multiple occupancy in which two or more classes of occupancy (purpose groups) exist e.g. retail(4a), offices(3) residential(1c/2b)
 - 3.82 Multi Occupancy
 - A building or structure in which two or more classes of occupancy exist i.e. a premises in which control of various parts of the premises lies with several occupants and/or external parties

Section 4: System Design - Overview

- 4.1 Persons using the standard are required to be competent and
 - “Shall be able to demonstrate their competence to the satisfaction of the client/ user”

User has a duty to assess the competence of his service providers.

Competence measure to be based on evidence of:
Experience, Training, Reference works etc.

Section 4: System Design - Overview

- 4.4.3 (b) Fire Services Act Paragraph 22(6)d
 - It is an offence to wilfully or recklessly give to an authorised person or Fire Authority information which is false or misleading in a material respect.
- **All** certification must be true and correct
 - Certificate of Design
 - Certificate of Installation
 - Certificate of Commissioning
 - Certificate of Verification
 - Certificates of Service and Maintenance

PC1

Section 5.2 : Design Process

■ 5.2.5 Multi Occupancy

- Mandatory to interconnect systems which impact on each other
 - Horizontal or Vertical

■ 5.2.10.2 Designer responsibility

- To ensure :
 - System Modification, Maintenance, Service, Configuration services and/or Spare Parts are not limited in any way to the User.

Section 5.3 Circuit Design

■ 5.3.3.2 Clarification

- Two sounder circuits **inside** the building

■ 5.3.5 Clarification – 4 Core Cable

- Prohibited only for Loop circuits

Slide 9

PC1 5.2.9.g wording: Phase-in period re Comm Prov... ended.
Paul, 22/09/2011

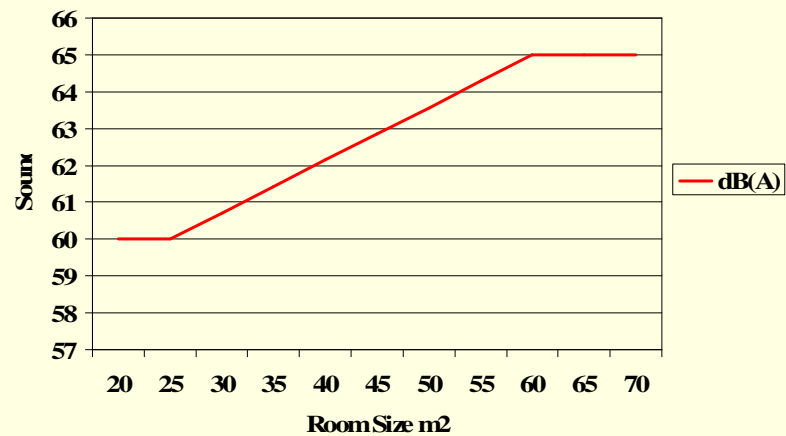
Section 5.4 : Design - Zones

- 5.4.1 Access to Zone
 - Clarified - refers to “Detection Zone”
- 5.4.2 Search Distance
 - Clarified - refers to “Detection Zone”

Section 5.6. Alarm Design

- **5.6.4.1 Calibration of dB Meters**
 - Annual at least
 - Use of Calibrated Calibration meter allowed
- **5.6.4.1.1 Reduced Sound level**
 - Corridors : 60 dB(A)
 - Stairwells : 60 dB(A)
 - Small Spaces up to 60m²: 60 to 65dB(A)

Sound levels – Sliding Scale



Section 5.6 Alarm Design

- **5.6.4.2 Common Alarm sound**
 - Throughout any System
 - Throughout a Campus
- **5.6.6.1 Resounding Control Sound**
 - Clarified as “In Detection Zone”
- **5.6.7 Tactile Alarm devices**
 - Now recognised in the standard

Section 5.6 : Alarm Design

- **5.6.11 Prohibited** “Off Site” Control of
 - Alarm Silence
 - System Reset
- **5.6.14 Limitation** on Alarm device use
 - Only for Fire Alarm Purposes
 - Exception
 - Emergency Evacuation purposes

Section 5.7 Manual Call Points

- **5.7.1 Prohibited** “Double Knock” of MCP
 - i.e. Using 2 call points before alarm sounds
- **5.7.2 Refuge Areas**
 - Mandatory MCP

5.7.2 Enclosed Stairwell

Up to 4 Floors

Does not apply to
basements



Section 5.7 Manual Call Points

- 5.7.2 Covers acceptable with locking tabs



- 5.7.2 Certification when using Covers
 - New System - Add as Variation on Certification
 - Retrofit – Issue New C4 Certificate

Section 5.8.2

- **5.8.2 (a) Heat detector Terminology change**
 - STATIC instead of FIXED Temperature

Note: I.S. EN54-5

Heat Detectors no longer classified by term "Grade"

Now classified by letters A to G with suffix

R: Rate of Rise

S: Static

Section 5.9.2 & 5.9.6

- **5.9.5 CO Fire Sensors**
 - Prohibited - Use as Toxic GAS detection
- **5.9.6 Video Fire Detection**
 - Designer to ensure adequate standby power
 - i.e. 24 hour quiescent load

PC3

Section 5.10 System Design

- **5.10.2 Added:** Conditions on use of Manual only systems
 - Only following Fire Strategy Risk Assessment
 - Procedures in place to Evacuate Visitors
- **5.10.3.2.3 Added:** Condition for selecting L4
 - a) Subject to Fire Strategy Risk Assessment
- **5.10.3.2.4 Added:** Stairs Protection for L4
 - Detectors at top and on each main landing

Section 5.10 System Design

- **5.10.4.5 Height of Point smoke**
 - Increase from 10.5m to 12.0m if **Enhanced** sensitivity point detector is used
 - **Added** Table 4 - Sensitivity of Detectors

Sensitivity	Range (obscuration/m)	Class
Normal	>2% (but within limits of IS EN5-7)	C
Enhanced	0.8% to 2%	B
Very High	>0.8%	A

Slide 21

PC3 last line 'and' not 'an'
Paul, 22/09/2011

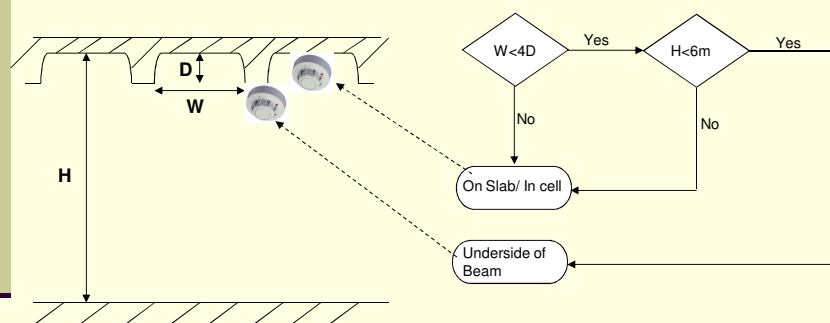
PC4

Section 5.10 System Design

- **5.10.5.7 Honeycombs/ Coffered ceilings**
 - New Rules added
 - Includes Beams and Coffered construction

PC9

Section 5.10.5.7 Coffers - Positioning



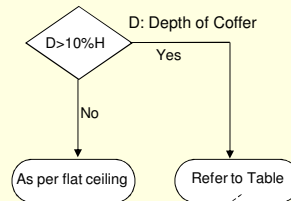
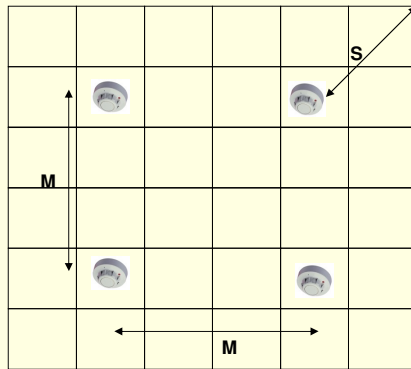
Slide 23

PC4 line 3 'and'
Paul, 22/09/2011

Slide 24

PC9 line 3 'and'
Paul, 22/09/2011

Section 5.10.5.7 Coffers - Spacing

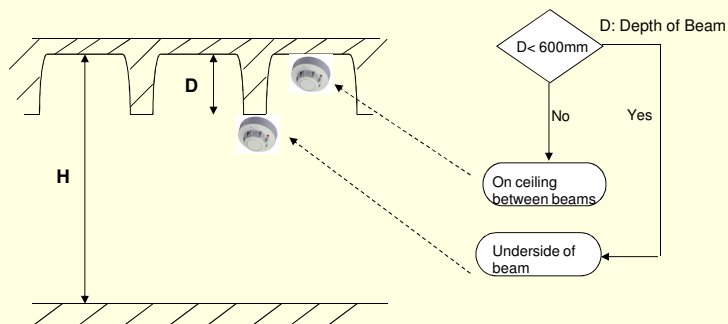


Slab height (H)	Max from any point (S)	Max Spacing (M)
≤ 3.0 m	4.0 m	8.0 m
≤ 4.0 m	5.0 m	10.0 m
≤ 5.0 m	5.5 m	11.0 m
> 5.0 m	6.0 m	12.0 m

PC10

Section 5.10.5.7 Structural Beams

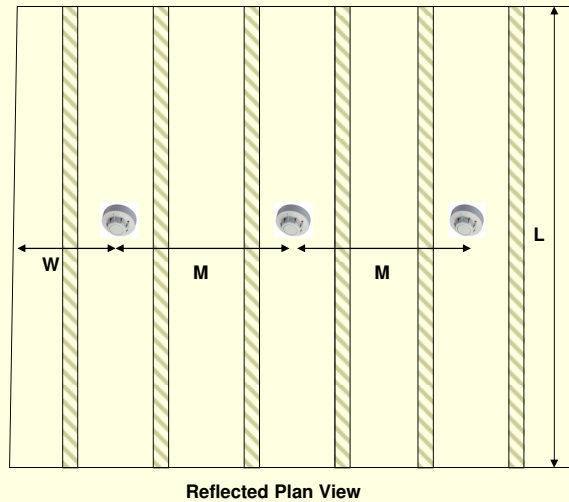
Includes Joists etc



Slide 26

PC10 line 3 'and'
Paul, 22/09/2011

Section 5.10.5.7 Structural Beams



Proposed Limits would be in the range (depending on height and beam depth) of

W From 1 to 4.5 metre

M from 2.3 to 9.0metre

Review following public comment taking place

Likely Outcome

Maximum M @ 7metre

W @ M/2 metres

Limit of L @ 9 metre

5.10.5.8 Horizontal Voids1

■ 5.10.5.8.1 If $\geq 800\text{mm}$ Protect

Unless*

- Risk Assessment indicates safe to omit

And

- Agreement by All Parties

And

- Added as Variation to Certification

* Escape Route Voids not eligible for derogation

5.10.5.8 Horizontal Voids2

- **5.10.5.8.1 If < 800mm**
 - No Protection (Excluding Escape routes)
Unless
Fire can spread between spaces prior to detection

5.10.5.8 Horizontal Voids 3

- **Escape Routes \geq 800mm**
 - Protect
- **Escape Routes < 800mm**
 - No Protection
IF
 - No significant Fire Load
AND
 - Construction between Void and Barrier is same as Escape Route Structure

Section 5.10 Shafts & RLU

- **5.10.5.9 Vertical Shaft**
 - Clarified “SMOKE” detector at top
- **5.10.5.13 Remote Indicator**
 - Clarified mandatory for Apartments
 - Addressable or Conventional

Section 5.10 Detector Siting

- **5.10.7.9 Car Parks**
 - Minimum L4 Cover required
 - Generally excludes “Car Parking” areas
- **5.10.7.9 Un-sprinklered Car Parks**
 - Fire Safety Strategy determines need in Car Parking areas
- **5.10.7.9 Car Park - Accessible from Building**
 - Include coverage of Car Parking Areas

Slide 32

PC5 **Capital 'S' 5.11**
Paul, 22/09/2011

Section 5.10 Detector siting

■ 5.10.7.10 Small Toilet Entrance lobbies

- No Cover if $< 2\text{m}^2$
- Previously 1m^2

Section 5.12.8.2 Zone Chart

■ Reduction in details Required

Retained

- Building Layout ✓
- Zone Identification ✓
- Access/ Egress ✓

Removed

- Circulation Areas ✗
- Escape Routes ✗
- Stairwells ✗

Section 5.12 C.I.E.

- **5.12.4 Adequate Lighting**
 - Now includes Repeater Panel locations

Section 5.13 Power Supplies

- **5.13.3.2.1 Standby Battery**
 - Must have 20% extra capacity over and above calculated capacity.

Section 5.14 Cable Types

- **5.14.2.2 Cable type clarified**
 - Normally Ph30 Standard Cable I.S.EN50200 E
- **5.14.2.3 Ph120 Enhanced** IF
 - Risk Assessments demands
 - Or**
 - Phased Evacuation
 - Or**
 - Height > 30m
 - Or**
 - Essential circuit routing hazard

PC6

Section 5.14.4.5 Cables Support

- **Clarification** of other acceptable Cable Supports
- Fireproof Cable mounted with/on
 - Screwed Steel Conduit
 - Upper Side of Tray
 - Stainless steel Ties.
 - Girder Clips

Slide 38

PC6 line 2 - steel not steek
Paul, 22/09/2011

Section 5.15 Radio

- **5.15 Radio Systems** – Complete Revision
- **5.15.1.1 I.S. EN54-25 Referenced**
- **5.15.2.3 Clarified** PSU for Alarm Devices/
Interface units can be battery
- **5.15.4.4 Antenna cable**
 - **Derogation** :Can be “fire protected” as
opposed to “fire resistant”

Section 6 : False Alarms

- Now includes old Section 5.11
- Section Rewritten in detail
 - Not material Change
 - Needs individual Read
- 6.4.1 New Table of False alarm rates

Section 7.5 Commissioning

- **7.5.5 Additional** Party to Commissioning
 - Providers of Ancillary systems
- **7.5.8.2** Commissioning provider “Shall” possess Manuals, tools etc.
- **7.5.8.5 Certification Clarified as One of:**
 - :C3 Final Certificate
 - :C4 Modification
 - :C5 Early Handover

Section 8.2 User

- **Certificates D1 & D2** Now Normative
 - Format under review following Public Comment
- **8.2.2.3 Clarified** Daily attention must be by the USER
- **8.2.2.4 Clarified** Weekly attention must be by the USER

PC7

Section 9 : Residential

- Section Rewritten
 - Format revised
 - Content materially unchanged
- 9.2.3.8 Owners to provide tenants with
 - Copy of Fire Strategy Response
 - Compliance requirement to be in Tenant lease

Annexes

- **Certification**
 - Mandatory to use model certificates
 - No variation to Model Format
- Changed from Informative to Normative
 - D1 & D2 : Service/ Maintenance
 - F : Ionisation Chamber Smoke
 - K : Certificate Domestic devices
 - L : Service Domestic devices

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PC7 re written ??????
Paul, 22/09/2011

