



Fédération Internationale pour la Sécurité des Usagers de l'Electricité
International Federation for the Safety of Electricity Users
Federacion Internacional para la Seguridad de los Usuarios de la Electricidad



bre



Forum International Fisuel – Belfast / Irlande du Nord – 21 et 22 Octobre 2014

Fisuel International Forum – Belfast / NI – 21st & 22nd of September, 2014

Agenda

Who is BRE ?

Why this research ?

Main causes

Main solutions

Who is BRE Global ?

Part of BRE Trust Group

Ensuring that products and services protect people, property and the planet

BRE Global works to ensure that fire, security, environmental and other products and services provide the quality of performance and protection that they should.

Why this research ?

53,4% of fire alarms recorded in UK in 2011-2012 were false

→ 312 000 on 584 500

**Estimated cost :
£ 1 billion / year in UK**

Origin of data



**Kings College London (699 cases –
400 000 m² premises) - KCL**



**Buckinghamshire & Milton Keynes
Fire
Authority (6612 cases - last 7
years) - BMKFA**

What is a « false alarm » ?

A false alarm is a fire alarm signal resulting from a cause, or causes, other than a fire, in which a fire detection and alarm system has responded, such as:

- A fire-like phenomenon or environmental influence (e.g. smoke from a nearby bonfire)
- Accidental damage
- Inappropriate human action (e.g. malicious manual call point (MCP) activation)
- Equipment false alarms, in which the fire alarm has resulted from a fault in the system.

A false alarm becomes an unwanted fire signal (UWFS) when the FRS is requested to attend.

Main causes

From KCL

Activation Category	Occurrence
MCP accidentally triggered	27
General dust from building works	25
Old detector	21
Burnt toast activating local smoke detector	20
Faulty detector head	19
MCP malicious activation	17
Unidentified equipment faults	17
Water leaks- corruption in loop	16
MCP mistaken for door release button	12
Smoke from cooking (hob)	11
Dust in smoke detector	10
Steam from shower	10

From BMKFA

Causal Factors	Number (% of total)	Further explanation
Unknown	1351 (20.4%)	Undetermined cause
System: smoke alarm Faulty	893 (13.5%)	Faulty smoke alarm suspected but not validated
Human Accidentally/ carelessly set off	778 (11.8%)	This includes all MCPs, smoke detectors etc. accidentally set off by humans
Contaminants Dust	734 (11.1%)	Dust in detector but no details of what proportion from smoke, aspirating, beam etc.
Human Cooking/burnt toast	620 (9.4%)	This constitutes all events including misuse e.g. toaster used in office
System: other Faulty	615 (9.3%)	Faulty system- no detail of panel, device or cabling etc. is provided
Human Testing	270 (4.1%)	Somebody conducting weekly test of the system but not taking it off-line. Signal goes to ARC and FRS contacted
System: smoke alarm Incorrect positioning	217 (3.3%)	The positioning may well be in line with BS 5839-1 or the room usage may have changed
System: smoke alarm Poor maintenance	154 (2.3%)	No further details available: perhaps devices need replacing

Non domestic premises

Main Solutions for KCL

Solution	Proposed intervention action	Number of potential causes resolved
1	Replace detector with multisensor	69.2%
2	Use of appropriate approved detector/s located correctly	43.5%
3	Use of protective covers over approved MCPs with adequate signage and CCTV where required	16.7%
4	Use of EN 54-2 approved analogue addressable panel	10.2%
5	Better control of contractors	9.7%
6	More rigorous maintenance of the system	6.0%

TABLE 4: Physical intervention actions for unwanted fire alarm activations 2010-13



Main Solutions for BMKFA

Observed cause of UWFS	Implemented action
Smoking under smoke detectors	Changed to heat detectors
Activating MCPs to call warden	MCP's removed and replaced with correctly located smoke detectors.
Contractors producing dust or paint fumes setting off smoke detectors.	Isolated the zone prior to works.
Dust settles on smoke detector cover during works and on removing the cover the dust is dispersed and activates the smoke alarm.	Educated contractors on the need to clean smoke detector covers some time prior to their removal
Cooking triggering smoke detectors	Specified the correct detection (heat detectors in kitchen). Also the use of extractor fans linked to ovens that come on automatically.
Hitting MCP button to open doors rather than exit button.	MCP covers used to prevent incorrect operation
MCPs maliciously activated	CCTV in entrances for security purposes deter malicious activations
Faulty detectors causing multiple alarms	Replaced detector head
Faulty chips on a batch of network monitoring hardware sending false signals to the ARC	Systems replaced



Main results (BMKFA)

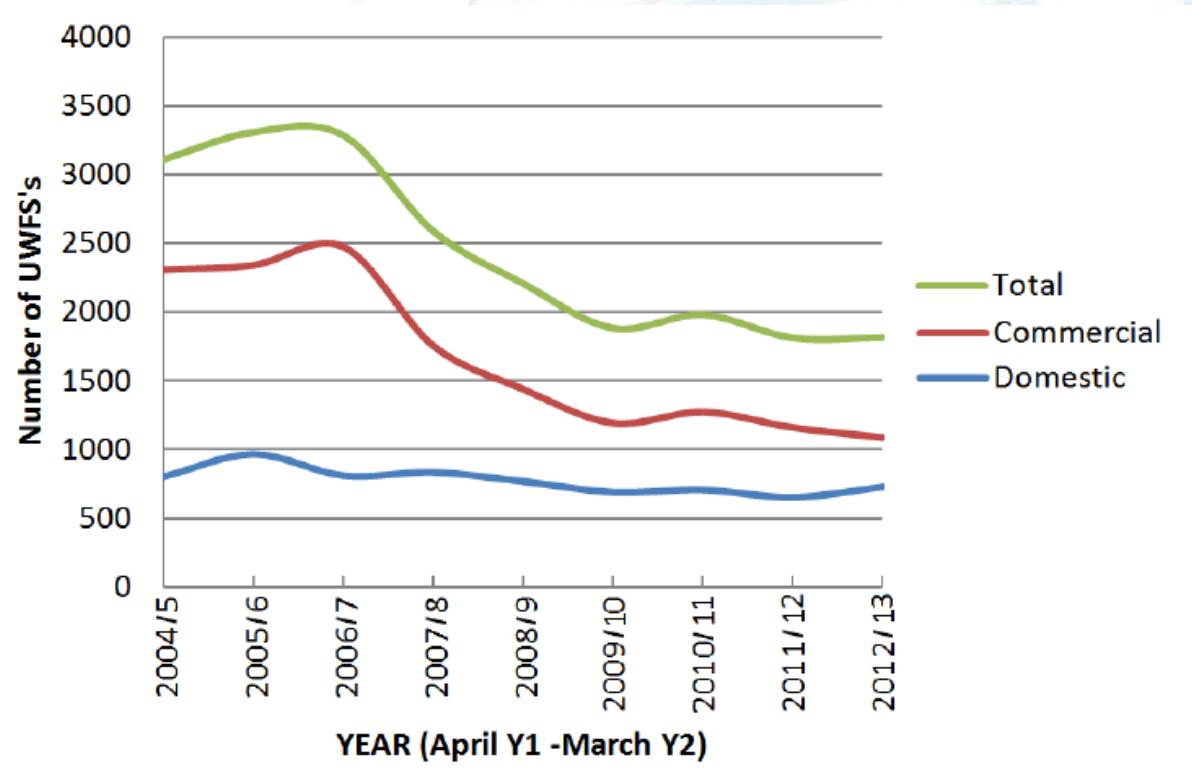


FIGURE 4: The UWFS trends for BMKFA from premises from 2004-2013

Domestic (BMKFA)

No enforcement in domestic premises.

Absence of umbrella organizations that seek to provide a uniform approach.

Generally domestic cooking causes the most false alarms in private dwellings

→ Methods to educate owners

→ Installing appropriate detectors in and around kitchens



Fédération Internationale pour la Sécurité des Usagers de l'Electricité
International Federation for the Safety of Electricity Users
Federacion Internacional para la Seguridad de los Usuarios de la Electricidad



Merci – Thank you

Forum International Fisuel – Belfast / Irlande du Nord – 21 et 22 Octobre 2014

Fisuel International Forum – Belfast / NI – 21st & 22nd of September, 2014