



Her Majesty's Coroner for the  
Northern District of Greater London  
(Harrow, Brent, Barnet, Haringey and Enfield)

North London Coroners Court,  
29 Wood Street,  
Barnet EN5 4BE

Telephone 0208 447 7680  
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**REGULATION 28 REPORT TO PREVENT FUTURE DEATHS**

**THIS REPORT IS BEING SENT TO:**

- a. Association of Manufacturers of Domestic Appliances (AMDEA) [REDACTED]  
[REDACTED] Rapier House, 40-46 Lambs Conduit Street, London, WC1N 3NW  
British Standard's Institute, Chairman of CPL/ 61 Committee, 389 Chiswick  
High Road, W4 4AL.
- b. The Trading Standards Institute, 1 Sylvan Court, Sylvan Way, Southfields  
Business Park, Basildon, Essex, SS15 6TH;
- c. Chief Fire Officers Association [REDACTED], 9-11 Pebble Close,  
Amington, Tamworth, Staffordshire, B77 4RD;
- d. [REDACTED] Deputy Director, National Resilience and Fire Programmes,  
Department for Communities and Local Government, 3/E1, Third Floor Eland  
House, Bressenden Place, London, SW1E 5DU.
- e. Association of British Insurers, 51 Gresham Street, London, EC2V 7HQ;
- f. UK-AFI President, Mr J Galvin, 9 Bushey Bartrams, Shenley Brook End,  
Milton Keynes, MK5 7HE;
- g. Mr N. Gibbins, Company Secretary, The Institution of Fire Engineers, IFE  
House, 64-66 Cygnet Court, Timothy's Bridge Road, Stratford-upon-Avon,  
CV37 9NW;
- h. Ann Priston, President, The Chartered Society of Forensic Scientists, Clarke  
House, 18A Mount Parade, Harrogate, North Yorkshire, HG1 1BX.



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	<p>i. Mr M Proctor, Chief Executive Officer (trading), The British Retail Consortium, 21 Dartmouth Street, London, SW1H 9BP.</p> <p>j. Trading Standards Institute, 1 Sylvan Court, Sylvan Way, Southfields Business Park, Basildon, Essex, SS15 6TH.</p> <p>k. Beko plc, Beko House, 1 Greenhill Crescent, Watford, WD18 8QU.</p> <p>l. [REDACTED] Head of Product Regulation, Department for Business, Innovation and Skills, 1 Victoria Street, London, SW1H 0ET.</p> <p>m. Association of Manufacturers of Domestic Appliances (AMDEA), Rapier House, 40-46 Lambs Conduit Street, London, WC1N 3NW (FAO: [REDACTED] [REDACTED] Technical Manager)</p> <p>n. British Standard's Institute, Chairman of CPL/ 61 Committee, 389 Chiswick High Road, W4 4AL.</p> <p>o. British Standards Institute, Chair of PEL/ 33 (Power Capacitors) Committee, 389 Chiswick High Road, W4 4AL</p> <p>p. Department for Business, Innovation and Skills, 1 Victoria Street, London , SW1H 0ET</p>
1	<p><b>CORONER</b></p> <p>I am Andrew Walker, senior coroner, for the coroner area of Northern District of Greater London</p>
2	<p><b>CORONER'S LEGAL POWERS</b></p> <p>I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.</p>
3	<p><b>INVESTIGATION and INQUEST</b></p> <p>On the 23<sup>rd</sup> day of November 2010 I opened an investigation into the death of Santosh</p>



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	<p>Benjamin Muthiah , 36 years old. The inquest concluded on the 26<sup>th</sup> September 2014 The conclusion of the inquest was "Narrative", the medical case of death was 1a Cerebral Anoxia , and under paragraph 1 b Inhalation of Fire Fumes</p>
4	<p><b>CIRCUMSTANCES OF THE DEATH</b></p> <p>At some point during the night of the 10<sup>th</sup> to 11<sup>th</sup> of November 2010 the failure of the fridge freezers defrost timer resulted in fire that spread from the fridge freezer to the house whilst Mr Muthiah and his family slept upstairs. Fortunately [REDACTED] awoke and efforts focussed on saving their children. Mr Muthiah's wife passed one of their two children to a neighbour who had climbed the front of the house to the front bedroom window. Their second child was rescued by another neighbour from a flat roof at the rear of the house. The London Fire Brigade recovered [REDACTED] from on the bed in the front bedroom and Mr. Muthiah from the bathroom at the rear of the house.</p> <p>Mr and [REDACTED] Muthiah were taken to hospital where Mr Muthiah died as a consequence of smoke inhalation in the fire at his home.</p>
5	<p>1. <b><u>CORONER'S CONCERNS</u></b></p> <p>2. During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths will occur unless action is taken. In the circumstances it is my statutory duty to report to you.</p> <p><b>Identification of cause of fires</b></p> <p>2. I heard evidence from various witnesses, including the LFB but also from Beko and [REDACTED] formerly of Intertek, that there are often problems in identifying, not just the specific cause of an appliance fire, but even the manufacturer, model and serial number of the appliance in question due to the severity of the fire damage. This has a knock on effect on Fire &amp; Rescue Services' ("FRS's"), Trading Standards' ("TS") and manufacturers' ability to accurately identify a pattern or trend within fires from appliances which may evidence a specific manufacturing or component problem.</p> <p>3. This creates a risk that the nature and extent of a potential problem with a particular manufacturer or particular appliance is not fully known and therefore underestimated with the consequence that the risk to the lives of consumers may also be</p>



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underestimated.

4. LFB witnesses gave evidence that if manufacturers were to mark their appliances with the model and serial number of their products in such a way that the marking will survive a fire, even if it were severe, this would enable any appliance believed to have caused the fire to be properly identified so that accurate information can be provided to the manufacturer and TS. More accurate information would assist manufacturers when carrying out risk assessments and will serve to more accurately identify the nature and extent of any potential problem and its consequent risk to the lives of consumers and to TS in order that they can consider whether action should be taken.
5. I address these concerns in this report to:
  - a. Association of Manufacturers of Domestic Appliances (AMDEA) [REDACTED]  
[REDACTED], Rapier House, 40-46 Lambs Conduit Street, London, WC1N 3NW  
British Standard's Institute, Chairman of CPL/ 61 Committee, 389 Chiswick High Road, W4 4AL.

**Communication of Information**

6. I heard evidence from the LFB witnesses as to the LFB's practice at the time of Mr Muthiah's death and the present practice in relation to the communication of information gathered by their Fire Investigation Team ("FIT") concerning the cause of appliance fires.
7. The LFB practice is to communicate information on an appliance fire to both the manufacturer of the appliance and to TS where they have been able to identify the manufacturer of the appliance and where the fire investigation has concluded that the cause of the fire was that appliance. In other words, every time that an LFB fire investigator determines that a fire has originated in a particular appliance the manufacturer and TS are told.
8. This is not the case routinely elsewhere in the country. There may be a variety of



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reasons for this, including the difficulty in identifying the appliances due to fire damage, and the more limited resources and expertise in the investigation of the causes of fires that other FRS's have in contrast to the fortunate position of the LFB.

9. Whatever the reasons there is a risk in existence where such information that is gathered by FRS's in relation to fires involving domestic electrical appliances (where the appliance can be identified) is not routinely passed to the appropriate TS Home or Primary Authority or indeed to the manufacturer. TS is taking decisions on whether to take any action in relation to a particular manufacturer or a particular appliance on less than all the available information. If they were provided with more accurate information about the incidences of appliance fires they would be in a better position to take action where necessary.
10. I address these concerns in my report to:
  - a. The Trading Standards Institute, 1 Sylvan Court, Sylvan Way, Southfields Business Park, Basildon, Essex, SS15 6TH;
  - b. Chief Fire Officers Association [REDACTED], 9-11 Pebble Close, Amington, Tamworth, Staffordshire, B77 4RD;
11. At present the Department for Communities and Local Government ("DCLG") does not necessarily pass the data it collects from FRS's, relating to appliance fires (where the make and model are recorded) to TS.
12. Again, there is a risk created where TS is taking decisions on whether to take any action in relation to a particular manufacturer or a particular appliance on less than all the available information. If they were provided with more accurate information about the incidences of appliance fires they would be in a better position to take action where necessary.
13. I address these concerns in my report to:
  - a. [REDACTED] Deputy Director, National Resilience and Fire Programmes,



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Department for Communities and Local Government, 3/E1, Third Floor  
Eland House, Bressenden Place, London, SW1E 5DU.

14. I heard evidence that companies and organisations which investigate fires, such as insurance companies, legal firms, private fire investigators etc. do not, generally, notify TS when the outcome of an investigation is that the cause of a fire is believed to have been the result of a product failure.
15. There is a risk created where TS is taking decisions on whether to take any action in relation to a particular manufacturer or a particular appliance on less than all the available information. If they were provided with more accurate information about the incidences of appliance fires they would be in a better position to take action where necessary.
16. I address my concerns in this report to:
  - a. Association of British Insurers, 51 Gresham Street, London, EC2V 7HQ;
  - b. UK-AFI President, Mr J Galvin, 9 Bushey Bartrams, Shenley Brook End, Milton Keynes, MK5 7HE;
  - c. Mr N. Gibbins, Company Secretary, The Institution of Fire Engineers, IFE House, 64-66 Cygnet Court, Timothy's Bridge Road, Stratford-upon-Avon, CV37 9NW;
  - d. Ann Priston, President, The Chartered Society of Forensic Scientists, Clarke House, 18A Mount Parade, Harrogate, North Yorkshire, HG1 1BX.
17. Major retailers also do not notify TS when they receive reports of failures, including fires, in products reported to them by customers.
18. Again, there is a risk created where TS is taking decisions on whether to take any action in relation to a particular manufacturer or a particular appliance on less than all the available information. If they were provided with more accurate information about the incidences of appliance fires they would be in a better position to take action where necessary.



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19. I address this concern in my report to:

- a. Mr M Proctor, Chief Executive Officer (trading), The British Retail Consortium, 21 Dartmouth Street, London, SW1H 9BP.

**Second Hand Market**

20. I heard evidence from the LFB witnesses who gave some evidence that defective products on the second hand market pose a continuing risk to consumers.

21. There is no clear system in place to ensure that products subject to a safety notice or recall are not sold, unmodified, on the second hand market. By way of example, the LFB has recently identified several unmodified Beko fridge freezers which are subject to the safety notice, for sale in a second hand retailer. This lack of regulation or market surveillance of the second hand market poses a risk to consumers.

22. I address this concern in my report to:

- a. Trading Standards Institute, 1 Sylvan Court, Sylvan Way, Southfields Business Park, Basildon, Essex, SS15 6TH.

**Beko Frost Free Fridge Freezers the Subject of the Recall**

23. I heard evidence from the LFB witnesses of their concerns that serious failures in Beko Frost Free Fridge Freezers ("FFFF's") manufactured between 2000 and 2006 are continuing resulting in a serious risk to the safety of consumers. [REDACTED]

[REDACTED] gave evidence of the numbers of fires which the LFB FIT have investigated to date, the appliance models and the causes of the fires.

24. The LFB submits that there remains a risk in relation to the lack of or minimal awareness of the current safety notice in relation to these Beko models.



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25. I address my concerns in this report to:

- a. Trading Standards Institute, 1 Sylvan Court, Sylvan Way, Southfields Business Park, Basildon, Essex, SS15 6TH;
- b. Beko plc, Beko House, 1 Greenhill Crescent, Watford, WD18 8QU.

**Risk Assessment**

26. I heard a great deal of evidence concerning the process of risk assessment and the factors to be taken into account when considering the potential seriousness of injury and the likelihood of a risk eventuating.

27. It is the view of the LFB that the following matters should always be taken in to account when carrying out a product safety risk assessment:

- a. Sleeping risk – i.e. the fact that a person is more vulnerable to the risks of fire when asleep;
- b. The most serious consequence of a product failure i.e. in the case of fire, serious injury or death;
- c. The potential long term physical impact on persons who have suffered burns injuries;
- d. The possible psychological impact on persons who have suffered the trauma of a fire.

28. It was clear from the evidence that there have been and continue to be different approaches to risk assessment adopted. The evidence from [REDACTED] and the evidence from the face of the Arcelik and Intertek Risk Assessments (in documentary form) made at the material times over a period of a number of years show that some of these factors are not taken into account and some may be taken into account to a variable degree.

29. Failing to take these factors into account expressly creates a risk that the seriousness of injury, and consequently, potentially the seriousness of the overall risk is





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underestimated.

30. I address my concerns in this report to:

- a. [REDACTED] Head of Product Regulation, Department for Business, Innovation and Skills, 1 Victoria Street, London, SW1H 0ET.

**Guidance**

31. I heard from Beko witnesses and, also, in particular, [REDACTED] that there are inconsistencies between the EU Commission Guidance and the UK Trade Association Guidance on corrective action and the requirement to notify an enforcement authority.

32. The AMDEA guidance says that if the outcome of the risk assessment is that there is a "moderate" risk, the manufacturer is not required to notify TS but the BIS guidance says that a "moderate" risk outcome requires notification to TS.

33. Manufacturers therefore are in difficulty in consistently applying guidance and in carrying out their notification obligations where there is the requisite level of risk to consumers.

34. I accept the LFB submissions that such inconsistency creates a risk that of TS not being notified and therefore action not being taken in circumstances when it arguably should be highlighting a risk to consumers.

35. I address my concerns in my report to:

- a. [REDACTED] Head of Product Regulation, Department for Business, Innovation and Skills, 1 Victoria Street, London, SW1H 0ET.

**Construction of Refrigeration Appliances**

36. I heard evidence from the LFB witnesses who gave evidence concerning the inherent



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risks that refrigeration appliances present due to their construction. The polyurethane insulation material used in most refrigeration appliances represents a high fuel load, is highly flammable and when on fire burns to create dangerous gases.

37. There is no legal requirement or industry standard that this insulation material is isolated from or protected from ignition by a failure in another component within the appliance, which represent a risk of ignition, such as the compressor, capacitor or ancillary components. This represents a serious risk to the safety of consumers.

38. This is currently being considered by AMDEA and BSI and will be discussed at the meeting to be held in Japan later this year.

39. The plastic materials which are used for filling, strengthening and insulating refrigeration appliances are highly flammable and increase the fuel load of these appliances posing a continuing risk to consumers. It is possible to use alternate, non-flammable or less flammable materials. It is also possible to better contain such combustible components or insulation. There is no such requirement at present which creates a risk to the safety of consumers.

40. I address my concerns in this report to :

- a. Association of Manufacturers of Domestic Appliances (AMDEA), Rapier House, 40-46 Lambs Conduit Street, London, WC1N 3NW (FAO: [REDACTED] Technical Manager);
- b. British Standard's Institute, Chairman of CPL/ 61 Committee, 389 Chiswick High Road, W4 4AL.

#### Capacitors

41. I heard evidence for the LFB witnesses, in particular [REDACTED] who gave evidence about the serious concerns they hold about the ongoing risk posed by capacitor failures resulting in fires. These concerns are twofold, relating generally to capacitors and the industry standards and in relation to Beko appliances.



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42. Paragraph 24.8 of British Standard BS EN 60335-1:2012 'Household and similar electrical appliances; Safety; Part 1 - General requirements.' applies to the type of capacitors used in refrigeration appliances. It states that they shall not cause a hazard in the event of failure.
43. This requirement is considered to be met by one or more of the following conditions:
- a. The capacitors are of a class of safety protection P2 according to IEC 60252-1;
  - b. The capacitor is housed within a metallic or ceramic enclosure that will prevent the emission of flame or molten material resulting from failure of the capacitor;
  - c. The distance of separation of the outer surface of the capacitor to adjacent non-metallic parts exceeds 50mm;
  - d. Adjacent non-metallic parts within 50 mm of the outer surface of the capacitor withstand the needle-flame test of Annex E;
  - e. Adjacent non-metallic parts within 50 mm of the outer surface of the capacitor are classified as at least V-1 according to IEC 60695-11-10, provided that the test sample used for the classification was no thicker than the relevant part of the appliance.
44. I accept and agree with the concern raised by the LFB that the above requirement does not ensure that capacitors do not pose a hazard. This creates a risk to the safety of consumers.
45. The LFB FIT has experience of failures of P2 capacitors and failures leading to ignition of metal casing capacitors (contrary to a. and b. above).
46. Further, it is clear that the mechanisms of failure of a capacitor can bypass the required 50mm distance (contrary to c. above). Furthermore, in the case of a refrigeration appliance, the base of the compressor compartment is often two metal bars used for mounting components, leaving the floor surface exposed (for example a flammable carpet).



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47. The LFB believes that the requirements regarding capacitors referred to in paragraph 50 above (citing paragraph 24.8 British Standard BS EN 60335-1 : 2012) are not robust enough to prevent capacitors from presenting a hazard, which creates a risk to the safety of consumers.
48. I address my concerns in this report to:
- a. The British Standards Institute, Chairman of CPL / 61 Committee, 389 Chiswick High Road, W4 4AL.
  - b. British Standards Institute, Chair of PEL/ 33 (Power Capacitors) Committee, 389 Chiswick High Road, W4 4AL.
49. I heard evidence from LFB witnesses who gave evidence of their concerns that serious failures in Beko Frost Free Fridge Freezers ("FFFF's") manufactured between 2000 and 2006 are continuing resulting in a serious risk to the safety of consumers. [REDACTED] gave evidence of the numbers of fires which the LFB FIT have investigated to date, the appliance models and the causes of the fires. The LFB have written to Beko concerning these fires and the risk the appliances represent. This concern relates in large part to capacitor failures.
50. Although it is right to say that there was some evidence that there may be an "industry wide problem" i.e. that this risk is not specific to Beko, this alone does not address the risk which exists in Beko products and nor have the LFB been concerned enough in relation to the risk presented by other manufacturer's products to write to any of them.
51. The LFB were provided with a risk assessment from Beko dated 26 April 2012 which states that the risk is "low" such that no action is necessary or proposed. The LFB is concerned that this underestimates the risk to the safety of consumers, particularly as Beko witnesses' own evidence seemed to highlight that they consider the capacitor as a potential ignition source in fires.



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52. I address my concerns in this report to :

- a. The Trading Standards Institute, 1 Sylvan Court, Sylvan Way, Southfields Business Park, Basildon, Essex, SS15 6TH;
- b. Beko plc, Beko House, 1 Greenhill Crescent, Watford, WD18 8QU.

52. I have concerns that there should be consideration given to the creation of a simple, easy to use, Government funded/National website where **all** product recalls can be registered and accessed by consumers (and retailers) and ;

53. that there is no the mandatory placement on all domestic "white goods" appliances of the manufacturer, make, model number, serial number/batch number in flame resistant material.

54. I have concerns that consideration should be given to Legislation that offences relating to the "failure to notify" duties in Reg 7 and Reg 9 of the General Product Safety Regulations 2005: (GPSR's)

- (i) to become "either way" offences
- (ii) maximum penalties on summary conviction to be increased to a level 5 fine and/or 6 months imprisonment
- (iii) maximum penalties on conviction in the Crown Court, to include an unlimited fine and/or 2 years imprisonment (in line with many other "trader offences").
- iv) the removal of time limits for the institution of criminal proceedings or an extension to the existing time limits

55. I have concerns that there is no mandatory requirement that retailers must obtain the name, address and/or telephone number and/or email address of consumers at the point of sale of domestic "white goods" appliances.

56. and that this information is not stored for a minimum period of time.

57. I have concerns that there is no Code of Practice on product recalls to include: minimum standards, prominence guidelines for recall notices at point of sale and advertising (with a view to improving consistency of approach by manufacturers and retailers)

I address these concerns to :

- a. Department for Business, Innovation and Skills, 1 Victoria Street, London , SW1H 0ET



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6	<p><b>3. ACTION SHOULD BE TAKEN</b></p> <p>4. In my opinion action should be taken to prevent future deaths and I believe you [AND/OR your organisation] have the power to take such action.</p>
7	<p><b>YOUR RESPONSE</b></p> <p>You are under a duty to respond to this report within 56 days of the date of this report, namely by Monday 30<sup>th</sup> December 2014. I, the coroner, may extend the period.</p> <p>Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise you must explain why no action is proposed.</p>
8	<p><b>COPIES and PUBLICATION</b></p> <p>I have sent a copy of my report to the Chief Coroner and to the following Interested Persons;- The solicitors representing the family, The London Fire Brigade, Hertfordshire Trading Standards ,</p> <p>I am also under a duty to send the Chief Coroner a copy of your response.</p> <p>The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.</p>
9	<p>5<sup>th</sup> November 2014</p> <p>[REDACTED]</p>