



**NORTH YORKSHIRE  
FIRE & RESCUE SERVICE**

# **FIRE INVESTIGATION**

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## Why Investigate?

- The compilation of records and statistics
- To test compliance with the Law
- To determine liability
- To prevent re-occurrence – Prevention and Protection
- As part of a public enquiry
- Inform strategic and tactical planning
- In connection with fundamental research – DLUHC



### FIRE SAFETY ADVICE

**Washing procedures for towels used in the hospitality industry**  
This provides guidance following an investigation carried out by North Yorkshire Fire and Rescue Service into a fire in a commercial laundry following which involved towels laundered on behalf of a restaurant.

An investigation carried out by North Yorkshire Fire and Rescue Service found that towels from a local restaurant had been placed in a 30 to 40 minute, 40oc wash cycle, before being placed in a commercial dryer. The towels were then folded and left on a bench in readiness for use the next day.

More than five hours after the towels went through the drying process the chemicals within the towels self heated, causing the towels to catch fire. This resulted in damage to the commercial laundrette.

The investigation concluded:-

- The towels had not been washed at a high enough temperature, in order to remove the chemicals/ols efficiently.
- When removed from the dryer the towels were folded immediately therefore the heat was contained within the towels.
- Once folded they were stacked on top of each other allowing no ventilation or air flow, the towels did not cool and were able to self-heat and smoulder.

Businesses are encouraged to wash their towels on a wash cycle at temperatures above 90oc, in order to remove any chemicals and oils effectively.

This simple method, once implemented could make a massive difference. We hope businesses take this advice on board to minimise the risk of a fire occurring.

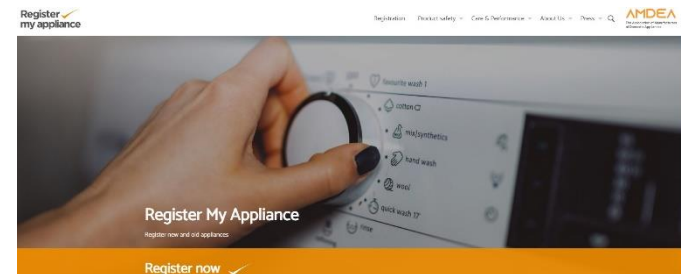
If you have any enquiries please your local fire safety department.



For more information on fire safety, visit:

[www.northyorkfire.gov.uk](http://www.northyorkfire.gov.uk)

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## Who Investigates?

- Fire Service
- Police –If a crime is suspected /has been committed, or there is a fatality
- Insurance companies
- Large organisations
- Health and Safety Executive

# Cost of Fire



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- Life
- Economy and business loss
- Societal
- Heritage (Built and natural)
- Financial



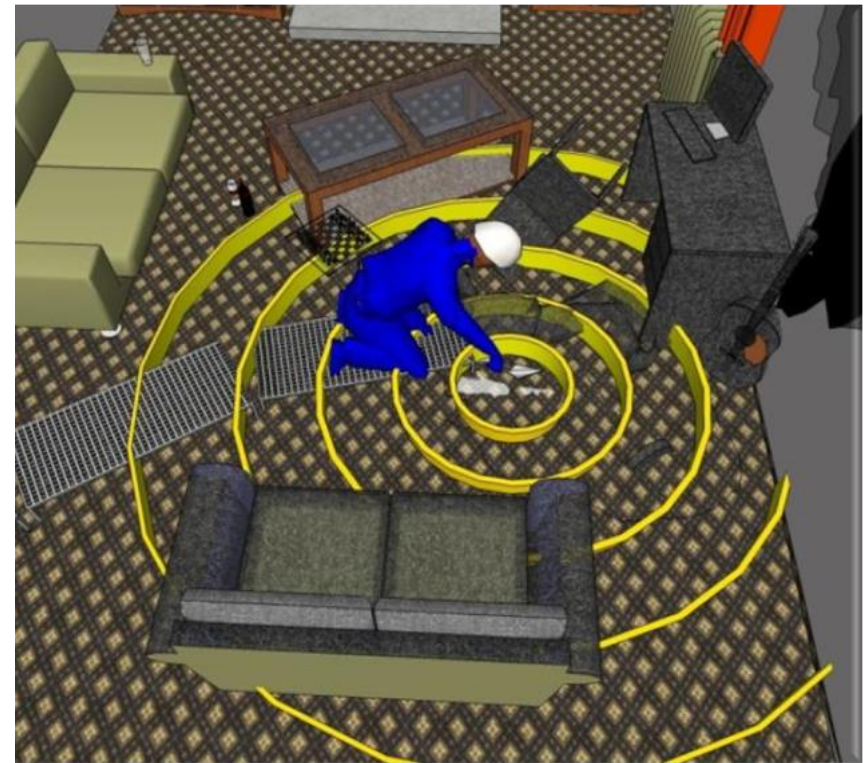
[www.northyorksfire.gov.uk](http://www.northyorksfire.gov.uk)

# What do Fire Investigators find:-



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- **Area of origin:** Radius of error to identify the point or place where the fire started.
- **Cause:** Identification of the cause of the fire or explosion must involve an assessment of all viable ignition sources in each individual case. This includes consideration of all viable sources pertinent to the specific incident and fuel available. Support for the inclusion or exclusion of a potential ignition source must be documented and evidenced
- **Development:** Fire investigators may be required to comment on the probable development of the fire or explosion, which may be beneficial when supporting hypotheses. The development of a fire may also become of interest if the numbers of deaths and injuries or extent of damage



# Fire and Rescue Service circular 1-2006



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FIO's must recognise and record those phenomena which may indicate that the:-

- Fire is not accidental in origin. This evidence will be crucial to a subsequent Investigation and must be recorded and made available to the Police.
- The FRSA 2004 gives **powers** to the Fire Service to investigate fires, but special considerations apply in the case of deliberate fires that are the subject of a Police investigation.



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## **Fire and Rescue Services Act 2004**

A **power** rather than a **duty**, to investigate fires,

- Section 45 Powers of entry
- Section 46 Supplementary Powers

**Fire investigators are investigating the causes of fire rather than conducting a criminal investigation.**

# Levels of fire investigation



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Type of Fire Investigation	Type of Incident	Fire Investigator Level
<b>Tier One Investigations</b>	All Fire Incidents (Incident Commander to confirm cause type with Control - Accidental, Deliberate or Cause Unknown.)	Tier One Investigator (normally Incident Commander - Crew/Watch Manager) If Cause Unknown or Deliberate Control to inform Level 2 FIO
<b>Tier Two Investigations</b>	Primary fires involving the attendance of 5 -10 pumps ( <b>provided these are used for firefighting purposes</b> ). Primary fires where incidents have occurred in the previous 24 hours. Where serious or multiple injuries have or are likely to occur Primary fires where cause is thought to be non accidental. Fires resulting in high value loss (e.g. Financial, commercial, heritage etc ) <b>Fires where explosions are involved.</b>	Tier Two Investigator (or a Level Three Investigator acting in a Level Two role)
<b>Tier Two (Regional) Investigations</b>	All potential or fatal fires Death of fire- fighter on duty at an incident Serious Injuries sustained to more than one fire-fighter at an incident Fires involving the attendance of more than 10 pumps Where persons are trapped as a result of a collapsed building Civil Disturbance – Major CBRN – Terrorist attack On request of Incident Commander or Principal Officer On request of Level Two Fire Investigator	Level Two Investigator and a Level Three Investigator  If a Tier 2 Regional Investigator is not available within North Yorkshire, then an Investigator from the Regional Fire Investigation Team will be mobilised

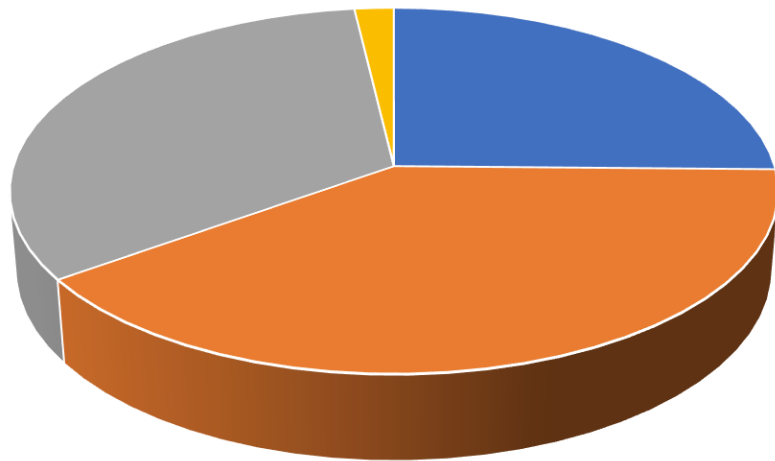




# Fire Investigation Activity (Tier 2)

## Break down 5 year average

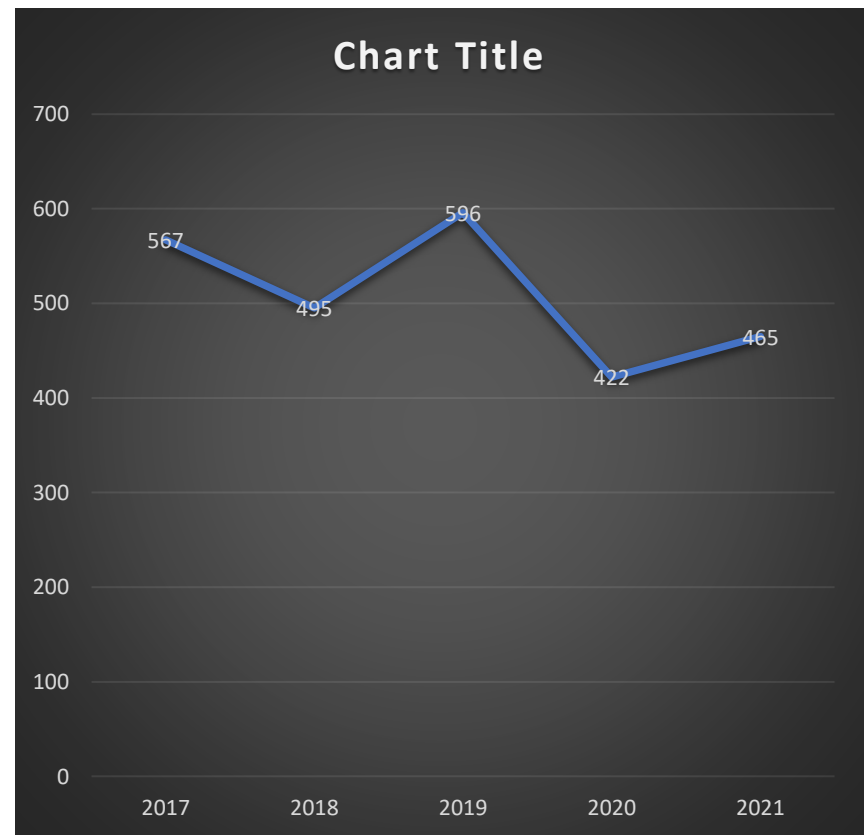
Chart Title



■ Travel ■ Investigation ■ Admin / Documentation ■ 3rd Party Interviews

## Annual Hours

Chart Title





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## **EXPERT EVIDENCE**

- In many cases **SPECIAL KNOWLEDGE** is required for the **TRUTH** of a **FACT** to be decided
- **EXPERT WITNESS** is allowed to use their special technical knowledge to ascertain the true meaning of facts in order for the court to reach its decision

# The Expert Witness



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- Function is to help the court understand complex technical evidence.
- Provide judge & jury with necessary information to enable them to make their own independent judgement about the facts in a case
- Special privilege – may hear other witnesses both before and after they have given evidence
- Single joint expert – acts independently for both sides in a case



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## Arson

Offence under Section 1 of the Criminal Damage Act 1971.

Section 1(1) of CDA 1971:

*“A person who without lawful excuse destroys or damages any property belonging to another intending to destroy or damage any such property or being reckless as to whether any such property would be destroyed or damaged shall be guilty of an offence”*

*Section 1(3)“...An offence committed under this section by destroying or damaging property by fire shall be charged with arson”*



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# Deliberate Flat Fire, York

Joined up approach with  
intelligence from NYP.

CSI forensic gathering



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Signs of other potential  
crimes masked by fire

- Forced entry – windows broken
- Bedroom fire
- Drugs use





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## Codes of Practice and ISO 17020

The expected quality standards for a range of forensic activities are listed in the Statement of Requirements within the '*Codes of Practice and Conduct for forensic science providers and practitioners in the Criminal Justice System*'.

The Statement of Standards and Accreditation in issue 4 of the Codes of Practice and Conduct stipulates that "*any organisation undertaking fire investigation activities is required to gain accreditation to ISO/IEC 17020*





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# **Code of Practice for Investigators of Fires and Explosions for the Justice Systems in the UK**

The Code of Practice has been developed to support and provide guidance to organisations and individuals engaged in the investigation of fires and explosions within the framework of the justice systems of the UK

# Competence



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- The NFCC competency framework document for Fire Investigation aims to support Fire and Rescue Service organisations with a structured approach to the induction, training, qualification and maintenance of competence required to support fire investigations within the FRS.
- Fire Standards in Fire Investigation
- Competent Tier 2 fire investigators must demonstrate the essential knowledge and skills equivalent to a minimum academic level 5 qualification in fire scene investigation.
- Advanced Professional Award Expert Witness
- Continuous Professional Development
- Peer Review
- Quality Assurance
- Regional Team – Memorandum of understanding



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## **ISO 17020**

**ISO/IEC 17020:2012 specifies requirements for the competence of bodies performing inspection and for the impartiality and consistency of their inspection activities.**



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## National Picture

1. 3-4 FRS doing to themselves in a DIY sense some using the GQMS
2. 9 FRS creating a collaboration between themselves, though they haven't worked out who will be the legal entity
3. 5 FRS not going for accreditation
4. Remaining 28-ish looking to secure a collaboration with Policing via one method or another.