



West Yorkshire  
Fire & Rescue Service



# Regional Heritage Emergency Planning Forum 2016

Making West Yorkshire Safer  
[www.westyorksfire.gov.uk](http://www.westyorksfire.gov.uk)

- Station Commander Gary Kendrew
- Worked for WYFRS 28 years
- Current role is Operational risk manager
- Operational Incidents ,Incident Commander or Command structure
- Fire Investigator
- Fire safety (fire engineering manager)
- Training responsible for brigade/national exercises

## **Areas that I will be covering are;**

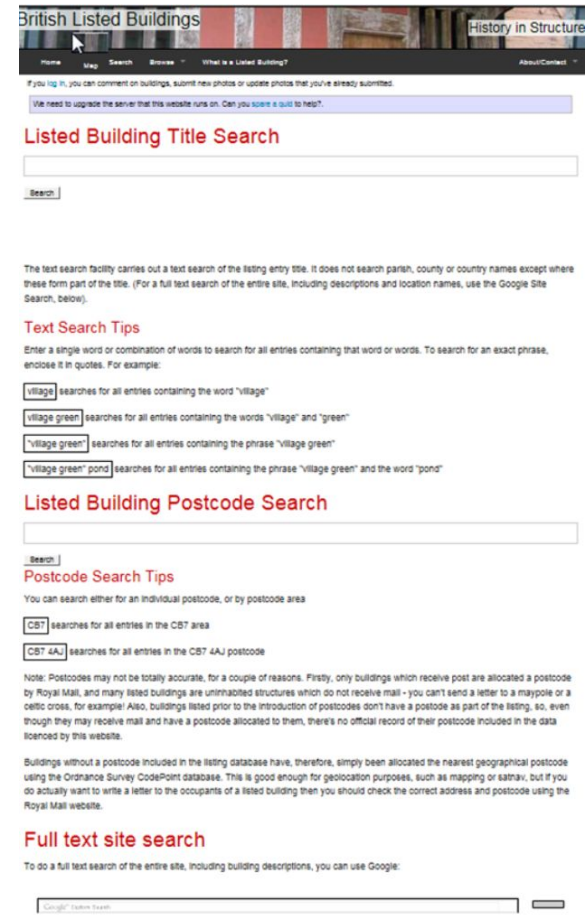
- Preparedness
- Joint Working
- Joint exercises
- Testing emergency plans with exercises
- Prevention
- Questions at the end

# Fire Service Responsibilities

- Management of Health and Safety Regulations – legal obligation to provide a safe workplace.
- Assessment of risks and make relevant information available to staff – the whole of West Yorkshire and cross boarder with neighbouring fire services.
- Fire Service Act 2004 – gather information as an aid to pre-planning strategy and tactics at incidents.7(2)(d) inspections
- Powers of Entry – Section 45 & 46 for obtaining information and investigating fires.
- Familiarise with premises, associated risks so that crews better prepared when dealing with incidents
- Gather and record information that will assist crews when responding to incidents.

# How do we determine if the building has a Heritage consideration.

- We use the British Listed Buildings website
- We have a representative who attends the regional heritage forum
- We use intelligence from external partners, and information gathered during the Operational risk Visits



The screenshot displays the 'British Listed Buildings' website interface. At the top, there is a navigation bar with links for 'Home', 'Map', 'Search', 'Browse', and 'What is a Listed Building?'. A banner image shows a building facade. Below the navigation bar, a message states: 'If you log in, you can comment on buildings, submit new photos or update photos that you've already submitted.' A purple bar contains the text: 'We need to upgrade the server that this website runs on. Can you spare a quid to help?'. The main section is titled 'Listed Building Title Search' in red. It features a search input field and a 'Search' button. Below this, a paragraph explains the search facility: 'The text search facility carries out a text search of the listing entry title. It does not search parish, county or country names except where these form part of the title. (For a full text search of the entire site, including descriptions and location names, use the Google Site Search, below)'. A section titled 'Text Search Tips' provides examples: 'village' searches for all entries containing the word 'village'; 'village green' searches for all entries containing the words 'village' and 'green'; 'village green' searches for all entries containing the phrase 'village green'; and 'village green pond' searches for all entries containing the phrase 'village green' and the word 'pond'. Below this is another search section titled 'Listed Building Postcode Search' in red, with a search input field and a 'Search' button. A section titled 'Postcode Search Tips' explains: 'You can search either for an individual postcode, or by postcode area'. Examples show 'CB7' searches for all entries in the CB7 area, and 'CB7 4AJ' searches for all entries in the CB7 4AJ postcode. A note states: 'Note: Postcodes may not be totally accurate, for a couple of reasons. Firstly, only buildings which receive post are allocated a postcode by Royal Mail, and many listed buildings are uninhabited structures which do not receive mail - you can't send a letter to a maypole or a Celtic cross, for example! Also, buildings listed prior to the introduction of postcodes don't have a postcode as part of the listing, so, even though they may receive mail and have a postcode allocated to them, there's no official record of their postcode included in the data licensed by this website.' Another note states: 'Buildings without a postcode included in the listing database have, therefore, simply been allocated the nearest geographical postcode using the Ordnance Survey CodePoint database. This is good enough for geolocation purposes, such as mapping or satnav, but if you do actually want to write a letter to the occupants of a listed building then you should check the correct address and postcode using the Royal Mail website.' A section titled 'Full text site search' in red provides the instruction: 'To do a full text search of the entire site, including building descriptions, you can use Google:'. At the bottom, there is a Google search bar with the text 'Google Custom Search'.

# How we measure Operational Risk!





Risk Groups	FF	Ind/Soc	Env	Com	Her	Eco
Significant Catastrophic Impact Identified	✓					✓
Very High	25	25	25	25	25	25
	20	20	20	20	20	20
High	16	16	16	16	16	16
	15	15	15	15	15	15
	12	12	12	12	12	12
Medium	10	10	10	10	10	10
	9	9	9	9	9	9
	8	8	8	8	8	8
Low	6	6	6	6	6	6
	5	5	5	5	5	5
	4	4	4	4	4	4
Very Low	3	3	3	3	3	3
	2	2	2	2	2	2
	1	1	1	1	1	1

# Operational issues

- Access to buildings or sites
- Firefighting media
- Simultaneous firefighting and salvage operations
- Salvage works/lists.



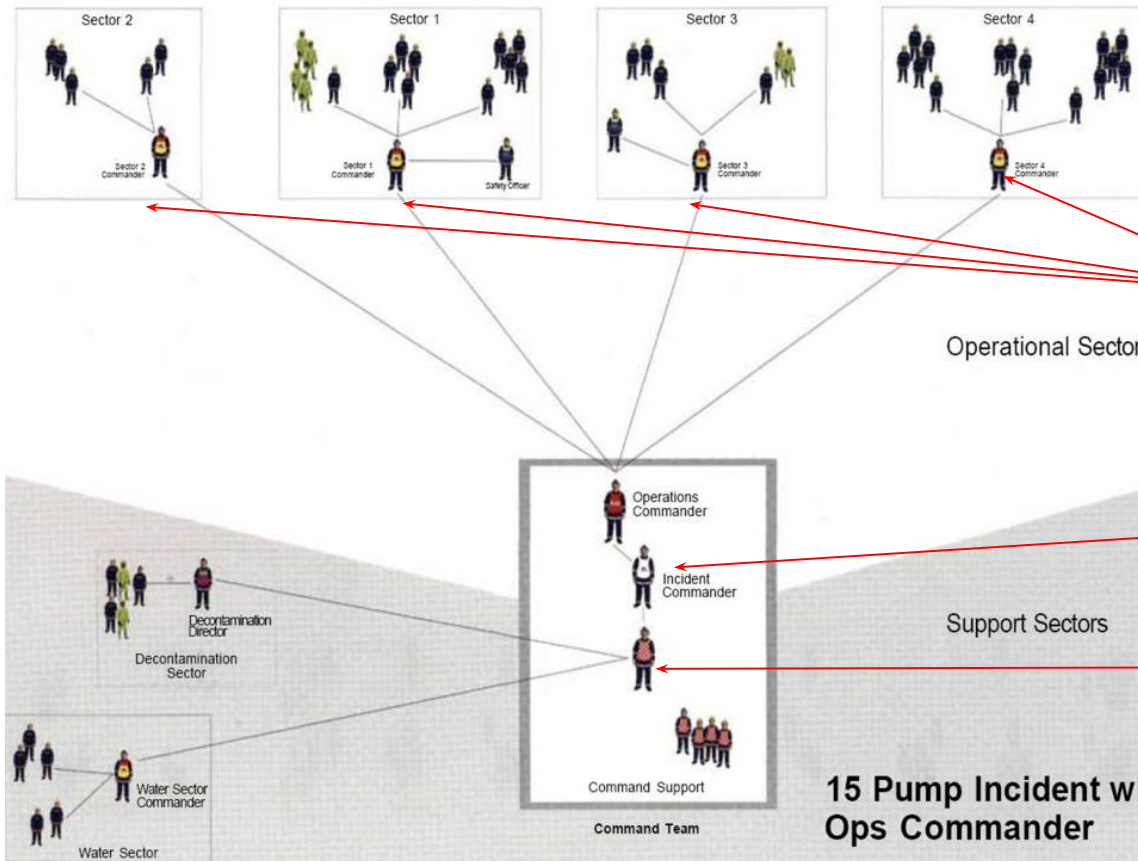
# Restricted access to a site or building





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# WYF&RS Command Structure



Operational Sectors

Sector  
Commanders

Incident  
Commander

Support Sectors

Command  
Support

15 Pump Incident with  
Ops Commander

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# WYF&RS Command Structure

## How to identify the Incident Commander?



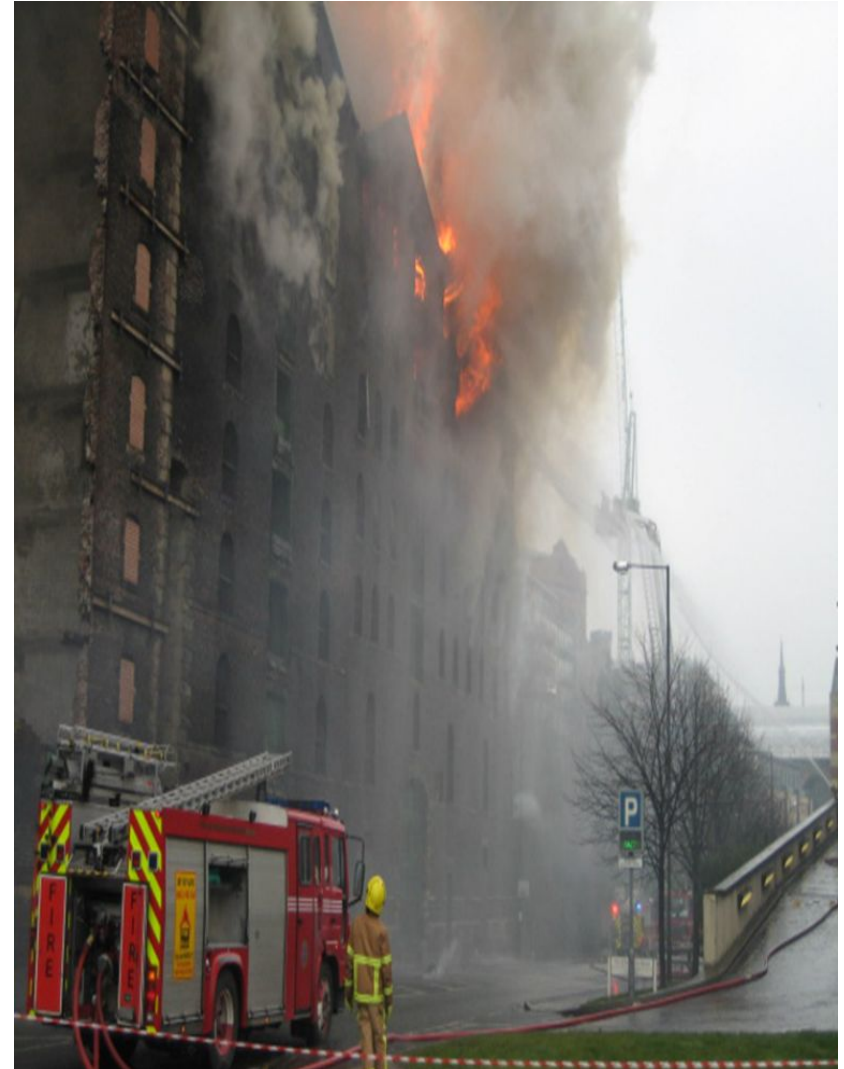
# Increased Fire fighter risk - Rapid fire spread

- Fire spread could be more rapid than expected.
- Fire growth paths may be unusual.
- The fire in this listed building is reported to have engulfed the whole building with “alarming speed”.



# Increased Ff risk - Rapid Collapse

- Walls no longer able to support the weight of the building's roof or upper floors will start to crack under the pressure.
- In addition, water or smoke that is able to push through walls that would normally have solid masonry are a sure sign that substantial fatigue has occurred.





# Inner and outer Cordon.



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- Compartmentation
- Fire fighting Tactics
- Stop jets
- Acceptance of loss



# Major Salvage Unit



- Is mobilised on request to incidents where salvage and environmental work will be undertaken.
- The MSU is operated by a dedicated support crew.
- The unit consist of three separate sections containing environmental equipment, major salvage equipment and electrical equipment.

# Legislation which FRAs will need to take account of to incorporate heritage matters in their IRMP strategy

- The Fire and Rescue Services Act 2004 Sec 6, 7&11
- Regulatory Reform (Fire Safety) Order 2005
- The Civil Contingencies Act 2004
- National Heritage Act (1983)
- Article 30 – 5e RR(FS)O – An Inspector must consult before issuing any enforcement notice to undertake works on these buildings without permission.
- ADB Sec 0.35 – give leeway for Heritage buildings to have FS solutions outside the guidance
- CLG guides have Appendix C for additional information relating to heritage buildings.

# Fire spread in heritage buildings

- floor voids and undivided roof spaces through which fire and smoke can spread quickly and undetected.





# Rapid fire spread and growth

Walls lined internally with combustible materials such as

- wood panelling,
- curtains, drapes and
- tapestries

These can produce rapid fire spread, and compromise the means of escape.



# Extensive halls rooms and corridors

Large undivided areas and voids such as large public rooms and imposing open staircases

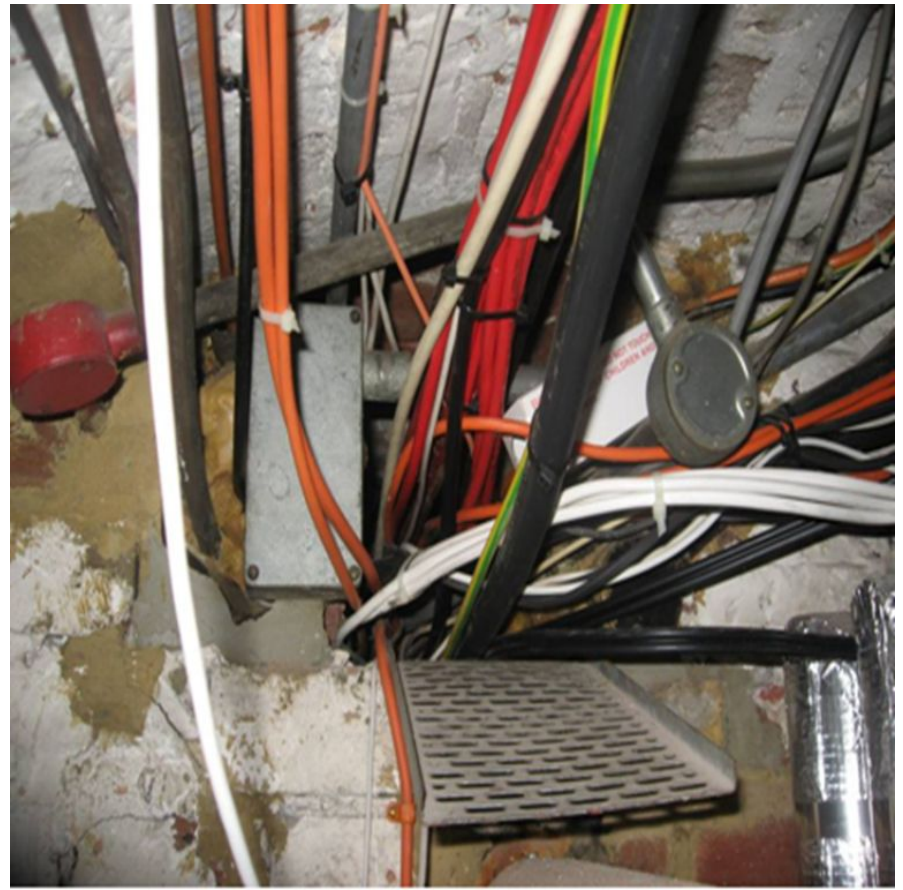
Lack of compartmentation

Extended travel distances.





**This duct linked 3 floors to the roof void and contained extensive cabling with no fire stopping**



# Protective measures

Often controversial because they can be disruptive to the original fabric of the building, and the physical installation of the systems can sometimes be difficult in a heritage building.

Opposite is a typical cavity barrier installation in a roof space.





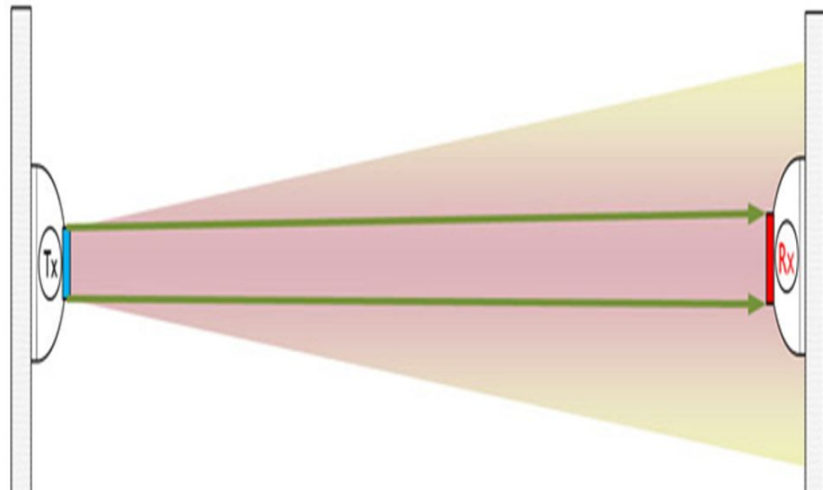
# Wireless fire alarm systems



- Wireless systems are available that can be used in areas of a heritage building where the installation of wires is not acceptable or possible.

# Fire detection - Beam detection

An end to end system can have the transmitter and receiver in separate detector heads



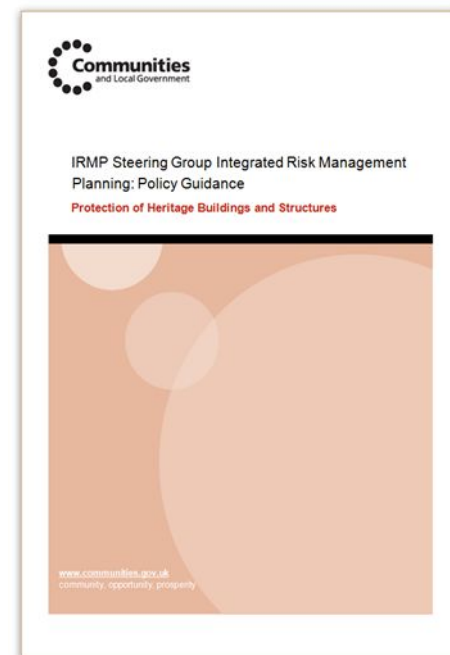
# Air Sampling Systems

“Hidden” aspirating detectors have been used in historic buildings where the detector head is concealed within a wall or ceiling and therefore minimises aesthetic impact.



# Fire safety and risk assessment?

- The regulatory Reform (Fire Safety) Order 2005
- This order reforms the law to fire safety in non domestic premises.
- The **responsible person must make a suitable and sufficient assessment of the risks** to which **relevant persons** are exposed for the purpose of identifying the **general fire precautions** he needs to take to comply with the requirements and prohibitions imposed on him by or under this Order.
- Historic buildings face the same fire risks and fall within the same fire safety legislation as their modern counterparts.
- But were generally constructed long before the introduction of current regulations and codes of practice.
- To ensure it survives, our built heritage requires an innovative approach that is sympathetic to the need for conservation whilst ensuring that the benchmark standards of fire safety are achieved.





# Fire fighting media – damage limitation

Residual firefighting water should be removed as soon as possible to prevent;

- Collapse of vaulted basements, ceilings or roofs
- Water will put soluble materials into solution
- Masonry will absorb huge quantities of water, freezing conditions will cause soft masonry to crack and exfoliate.
- As materials dry, surfaces crystallise and powder, mould and fungi will flourish

Try to use small quantities of water if possible, remember application at a 1000 l/min is a tonne a minute!

# Simultaneous firefighting and salvage operations




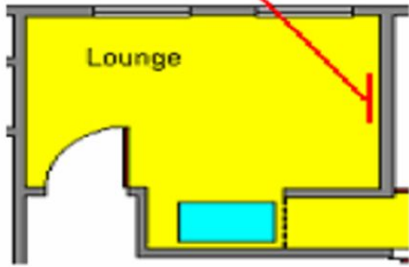



# Identification and removal of Heritage/Historical items

- Communication
- Identification
- Removal of items
- Place of safety
- Protection of heritage



# English Heritage Template for Saving Artefacts.

Salvage List Lounge Ground Floor	
<p>Phoenix House Ground Floor</p> 	
<p><b>Priority 1</b></p> 	

Lounge																								
<p><b>Priority 1</b> Man with Blue Jacket; Poste by Van Gough</p> 																								
 Weight: Medium	<p><b>REMOVAL</b></p> <p>Wear Gloves Support base Do not touch painting surface</p> <p>PTO</p>																							
<table border="1"> <thead> <tr> <th colspan="4">Painting Poste Vincent Van Gough</th> <th colspan="3">Inventory No</th> </tr> <tr> <th>Wet or Damp</th> <th>Contaminated</th> <th>Broken</th> <th>Weak</th> <th>Dangerous to Handle</th> <th>Mouldy</th> <th>Smoke Damaged</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Painting Poste Vincent Van Gough				Inventory No			Wet or Damp	Contaminated	Broken	Weak	Dangerous to Handle	Mouldy	Smoke Damaged	Other								
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# Example of Mobile Data Terminal Information for heritage premises

## **Control Measures**

- Good housekeeping
- Priority salvage list. Grab list kept in [location]
- An additional grab list kept at [location]
- CCTV in operation can be viewed from the security office which is [location]

## **Operational Considerations**

- Vehicles not to park in front of main doors due to basements beneath - park in cobbled area further back
- Fire alarm panel in [location]
- Mains electric shut-off in [location] as shown on plans
- Consider early salvage utilising salvage quick list

# Example Salvage Considerations for Heritage Premises

In the event of a fire, a separate Sector should be set up to deal with the salvage of valuable items. Additional crews should be requested specifically for this purpose. Many of the items within the premises are paintings and due to their location on the walls will require at least 2 fire-fighters to remove. The use of Little Giant Ladders will be necessary in most circumstances. In extreme circumstances and to expedite quick removal of paintings, it may also be necessary to cut the canvas from the frames.

There are also many items of pottery and furniture which will require at least 4 fire-fighters to carry due to their weight. Depending on time of day, museum staff will be on hand to advise the Sector Commander of the best way to deal with items. In the event of inclement weather, the inflatable shelter (carried on ISU) should be used to store items and aid security.

Synopsis of the full grab list, incorporating colour photographs of items, is kept at [location]. A brief list forms part of this Risk Template in the event of the full grab list is not being available or unable to access.

Most pictures within the house have an identifying number on a brass plate situated under the picture. These are included on the grab list, but are also cross referenced in the official guide book, which is available at the main entrance desk.



# Emergency Planning – Heritage PAN 19

Planning is a key element of protecting businesses from risks, particularly fire and flooding, and heritage sites are no different.

WYFRS have produced a PAN for crews to distribute when visiting suitable properties to assist them plan for such an event.



**Emergency planning for heritage buildings and collections**

# Heritage PAN – Contains information on;

- Emergency planning
- Threats to consider
- Fire risks and hazards
- Remedial action
- Flooding advice
- Salvage planning
- PPE
- Salvage (Snatch) lists.
- Security risk
- Contact lists
- Testing
- Monitoring
- Further information

# **CLG guidance – Heritage strategy**

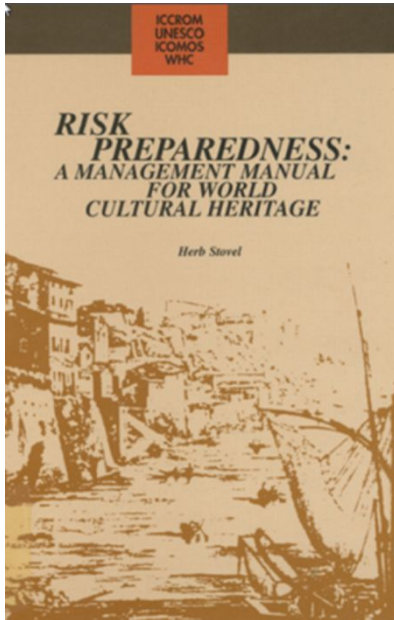
- Prevention - stop fires from starting in heritage buildings and other structures through advice and education
- Protection - application of legislative and technical fire safety, specifically targeted at the most at-risk heritage buildings and other structures and
- Operational Response – ensure effective and efficient emergency planning and operational procedures are in place to respond to fires in heritage buildings and other structures.



# “Will the building survive a fire”

- Assess which room is the highest risk
- Assume that if a fire occurs it may if it has sufficient energy consume the whole room
- Assess the amount of combustibles their flammability and how close they are to each other
- Other factors are, available ventilation, volume of the room and height of the ceiling and fire rating of elements of the structure
- These will give an indication of how quickly it will reach full room involvement
- A judgement is then made as to the probability of fire spread to adjacent rooms, floors or whole building
- The time taken for detection, intervention and firefighting may call for remedial action.

# Preparedness/testing emergency planning with exercises.



- Test and scrutinise your contingency plans
- Determine what elements you want to test
- Evaluation and amend your contingency plans accordingly
- Keep testing your plans especially following significant changes
- Engage with your local FRS

# Preparedness/testing emergency planning with exercises.

Determine what you want to test:

- Evaluation of the grab pack
- Identification of high value items,
- To test removal of items safely,
- To establish if the arrangements for relocation of items on a temporary basis works,
- To test business continuity plans,
- Testing and evaluation of equipment's suitability,
- To develop joint working with Emergency services,





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# Any Questions?