Overview

• The requirement for fire strategies, fire safety manuals.
• Fire strategy to be incorporated into the design.
• Developing fire strategies for existing buildings.
Introduction

• The key to ensuring a high standard of fire safety is a robust fire strategy. All NHS organisation should develop fire strategies for both new and existing buildings.

• The primary aim of the fire strategy is to design, manage, plan and co-ordinate appropriate fire safety procedures to reduce the risks of fire, thus ensuring the safety of the occupants.

• It is recommended that fire strategies should be developed from the principle of only one fire at any one time.
Fire Strategy

NHS trusts should give a clear and concise fire safety strategy for the future management of fire safety to design teams for all new projects.

The following legislation, Firecode guidance and British Standard will require a documented fire strategy in conjunction with a fire safety manual.

• Approved Document B Fire Safety (revised version 2007);
• Draft Firecode HTM 05/01 ‘Managing Healthcare Fire Safety’
• BS 5588 part 12 Managing Fire Safety;
The revised Approved Document B ‘Fire safety’ will include a requirement to provide sufficient information for persons to operate, maintain and use the building in relative safety before a ‘Completion Certificate’ can be issued by the ‘Building Control Body’.

Both the Draft HTM 05/01 ‘Managing Healthcare Fire Safety’ and BS 5588 part 12 Managing Fire Safety will require a fire safety manual and fire strategy upon completion of all new schemes.
The fire strategy should contain a full description of the assumptions and philosophies that led to the fire safety design, including the explicit assumptions regarding the future management and maintenance of the building.

Upon completion of the building the Fire Safety Manager will be responsible for maintaining the fire strategy and fire safety manual up-to-date.

Annual fire safety audits should review the fire risk assessments, fire strategies and fire safety manuals to ensure that they remain current.
It is recommended that a fire safety group be formed under the direction of the Executive Director and be chaired by the **Fire Safety Manager** to determine the fire strategy for new designs.

The fire safety group should appraise the advantages and disadvantages of the design options. Assistance from WHE can be provided to evaluate more complex schemes or where the value exceeds the WAG monitory threshold where ‘Building for Wales’ applies.

It is also recommended that the fire safety manager be a party to the design team meetings where agenda fire safety issues are discussed.
The Welsh Assembly Government has decreed that all new healthcare building schemes exceeding £5m must be procured through the ‘Building for Wales’ process by partnering with the supply chain.

These proposals are due to commence in June 2006.

This gives the NHS in Wales an opportunity to enhance the design of new healthcare buildings by developing appropriate fire strategies.
Fire Strategy
New Build
Fire Strategy

Fire strategies will be influenced by the following:

- Trust fire policy;
- Fire evacuation procedures (horizontal & vertical);
- Management roles and responsibilities;
- New works, refurbishment, extension and alterations;
- Occupants and use of the building;
- Extent of building services;
- The standard of fire precautions;
- Alarm and detection;
- Fire safety training.
Fire Strategy

- Fire fighting facilities (and their use);
- Emergency plans;
- Integrated risk management plans (Fire Authority);
- Method of procurement;
- Design of buildings to meet the needs of the disabled;
- Design issues;
- Maintenance issues;
- Security arrangements;

The list is not exhaustive, but the above are considered to be core elements in the development of a fire strategy for new build.
Fire Strategy

Changes in the proposed Firecode design guidance (HTM 05/02) recommends that the following fire safety provisions must be evaluated for inclusion in the design:

• The provision of a suppression system (sprinklers);
• The provision bed evacuation lifts (that can be used in a fire emergency).

Consideration should also be given to:
• Height limitation to 3 stories (new build);
• The inclusion of a hospital street into the design (DGH only);
Fire Strategy

The fire safety group should evaluate these fire safety recommendations to determine whether they warrant inclusion into the fire strategy and the design.

It is stressed that whilst they must be evaluated they are not a mandatory requirement of Firecode and it is for the fire safety group / trust to assess the advantages and disadvantages of incorporating these features into the design.

Where ‘Building for Wales’ criteria applies these fire strategy considerations should be undertaken in conjunction with WHE.
The fire strategy should be developed around the trust’s fire policy, which should include the mandatory requirements of WAG fire safety policy. i.e.

- Acknowledgement and inclusion of WAG fire safety policy;
- Statutory legislation;
- Management responsibilities;
- Other fire safety related policies (smoking, arson etc.);
- Fire safety manager;
- Fire response team;
- Means of escape / DDA audits;
- Integrated Risk Management Plans (Fire Authority);
- Fire safety audit;
- DSEAR Regulations.
Occupancy

The use and occupancy of the healthcare buildings will influence the fire strategy i.e hospital / ward / clinic / office as will the category of patients or employees i.e.

- Care of the elderly;
- Psychiatric;
- Intensive therapy unit;
- Special care baby unit;
- Medical acute;
- Day patients;
- Administration staff.
Building Design Considerations

The trusts fire safety group should consider the fire safety options of the design and its impact on management i.e.

- Points of ligature (psychiatric);
- Use of suspended ceiling;
- Access through suspended ceilings;
- Fire resistance of suspended ceilings;
- Termination of subcompartment walls at ceilings;
- The provision of cavity barriers, materials and access;
- Single direction means of escape (protected routes);
- Use of swing-free door closers, detents etc;
- Door closure strengths (Note BS8300 amended to 30n)
Means of Escape

The fire safety group should consider the evacuation strategy i.e.

- The extent of progressive horizontal evacuation;
- Accommodation on single direction of escape; projected number of ambulant / semi ambulant / non-ambulant patients to be evacuated;
- Number and composition of fire response team;
- Estimated time to evacuate wards / departments to relative place of safety;
Means of Escape

The fire safety group should consider the fire strategy for progressive horizontal evacuation i.e.

- Beds,
- Stretchers / Trolleys,
- Wheel chairs,
- Evac-chairs,
- Ski sheets / mattresses etc.

Or a combination of the above.
Means of Escape

The fire safety group should also consider the fire strategy for **vertical evacuation** (where applicable)

Bed evacuation lifts,
Evac-chairs,
Mattress evacuation sheets,

Should we really be dragging patients down stairs in the 21\textsuperscript{st} Century????
Should the evacuation strategy utilise Escape Bed Lifts?

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
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<tr>
<td>• Better consideration for patients condition and well-being during evacuation</td>
<td>• Managerial implications - at least three trained operatives per lift</td>
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<td>• Suitable for the movement of all categories of patients</td>
<td>• Must be well defined and practiced procedures for lift operation</td>
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<td>• Potentially faster vertical movement of patients</td>
<td>• Installation of communication systems</td>
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<td>• Multiple evacuation of wheelchair bound persons and semi-ambulant</td>
<td>• Servicing arrangements (what happens when lifts are out of use)</td>
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<td>• Ease implications of manual handling</td>
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<td>• Compliant with DDA access &amp; egress</td>
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The fire safety group should consider the fire strategy for attaining compliance with Disability Discrimination Act and the implications of access and egress for disabled visitors and employees i.e.

- The use of lifts in a fire emergency and their management in a fire emergency;
- The means of raising the alarm (profoundly deaf);
- Partially sighted;
- ‘Buddy’ system for employee’s
- Automatic door opening devices.
- Door closer strengths etc.
Integrated Risk Management Plans
(Fire Authority)

Subject to the IRMP of the fire authority, trusts will need to instigate a search regime and confirm an actual fire before receiving a ‘Blue Light’ response. Taking into account the type of building and category of patient what action should be undertaken to investigate a fire in:

- Wards (taking into account the patient designation)
- Roof spaces;
- Service ducts;
- Staff residence;
- 9 to 5 admin areas outside normal working hours.
The fire strategy should take into account:

• The operation of the mechanical ventilation;
• The type of fire / smoke dampers, air transfer grilles etc. to be installed.
• Fire damper panel location.
• Accessibility of fire dampers.
• Accessibility of plant within roof voids and ceiling voids etc.
The fire strategy should consider the location and procedures to isolate **medical gases** in conjunction with the medical profession.

The location and procedures to isolate **natural gas** in conjunction with the various departments i.e.

• Pathology,
• Catering department,
• Boiler house etc.
The fire strategy should determine:

- The cause and effect of the fire alarm;
- Operation of the fire alarm;
- Access to detector heads;
- The provision of above ceiling void detection;
- Fire alarm warning for the profoundly deaf;
- Fire alarm warning in sensitive areas theatres, SCBU, ITU etc.
- Mental health units;
- Isolation of combustible fuel sources;
- Opening / closure of doors;
- Activation of smoke control systems etc.
Emergency & Escape Lighting

The fire strategy for the installation of escape lighting;

The provision of escape lighting in addition to essential and non-essential lighting i.e.

• Traditional escape lighting system;
• Maintained non-maintained;
• Addressable escape lighting system.
The fire strategy for maintaining fire fighting provisions;

- Maintaining fire fighting roads clear of obstruction;
- Fire fighting by staff;
- Provision of hose reels including their removal and use;
- Medium of extinguishment for hand held fire extinguishers
- Internal fire hydrants and mains (wet or dry)
- Water storage tanks etc.
Emergency Plans

The fire strategy should determine what to do in the event of a fire emergency i.e.

• Raising the alarm;
• Telephonist duties;
• Fire safety manager or deputy duties;
• Fire response teams duties;
• IRMP;
• Meeting and directing the fire brigade upon arrival;
• Establishing both ETA of fire brigade with confirmed and unconfirmed fires.
The fire strategy should determine the following:

- Access to plant rooms, roof spaces, ceiling voids etc. (stairs, vertical ladders etc.)
- The nomination of ‘Responsible Persons’ for the various maintenance disciplines.
Security Arrangements

The strategy of integrating security arrangements with means of escape for:

- Psychiatric patients;
- Medium secure patients;
- Care of the elderly patients;
- Maternity;
- 9 to 5 departments;
- High monetary value departments / confidential information.
FIRE STRATEGY
EXISTING BUILDINGS
Fire Strategy Existing Buildings

Whilst the advantages of developing fire strategies and fire safety manuals for new work are evident.

Trust should consider the advantages that can apply to existing healthcare buildings by providing fire strategies and developing fire safety manuals i.e.

A fire strategy can be used by fire risk assessors to support their assessment of hazards and risks in healthcare premises when undertaking fire risk assessments.

To fulfil this requirement it should include the management structure to support and maintain the fire safety provisions.
Example 1
The standard of furniture and textiles within the dayroom of a ward does not conform to the recommendations of Firecode HTM 05/03 section 3.

However the fire strategy / fire safety manual confirms:

• That AFD has been installed to a high standard and is maintained in accordance with the British Standard;

• There is an agreed programme to replace defective furniture and textiles;

• Sources of ignition are considered to be low and;

• there is an effective no smoking policy.
Example 2
Piped medical gases are installed within a ward.

- The installation is maintained in accordance with the recommendations of HTM 2022.
- A designated ‘Approved Person’ (suitably qualified) has been appointed to exercise overall control of the installation.
- In the event of a fire incident, procedures are in place to isolate medical gas supplies in conjunction with the medical profession.
Fire Risk Assessments

Example 3
Alcohol hand gels dispensers have been provided in all patient care areas to assist in the control of MRSA.

The installation and storage has been undertaken in accordance with the recommendation contained in WAG NHS Estates Hazard notice (2005) 007.
The fire risk assessor with the supportive evidence of the fire strategy and fire safety manual endorsed by management have conclude that the fire risks and hazards associated with the three examples are deemed to be acceptable.
The advantages of a fire strategy and fire safety manual for existing healthcare premises are as follows:

- The evaluation of the fire risks and hazards can be substantiated by the rational of the fire strategy and the fire safety management regime.
- Subsequent fire safety audits will be able to validate the rational of the fire strategy / fire safety manual and confirm or otherwise the findings of the fire risk assessment;
- Enforcing authorities will be able to understand the rational of the fire strategy / fire safety manual for the healthcare premises and the findings of the fire risk assessment.
We have considered the requirement to provide fire strategies and fire safety manuals in statutory legislation and guidance.

We have also looked at the responsibility of:

- Trusts to developing fire strategies (in conjunction with WHE);
- Design teams responsibility to incorporate the fire strategy into the new design and provide a fire safety manual;
- Responsible person duties to maintain the fire strategies.

We have also considered the advantages of a fire strategy and fire safety manual for existing buildings.
The End