

## Fire Risk Assessment

General Information										
Address of premises:		Chemistry, Cantocks Close, Bristol, BS8 1TS.								
Assessor / job title:		Sylwester Rzeminski								
Date of fire risk assessment:		24 July 2025.								
Date of previous fire risk assessment:		24/06/2025.								
Suggested date of next review: (based on risk level indicator)		20/01/2026								
Building risk profile (A, B, Ci, Cii)		A2, B2.								
Risk Level Indicator										Total points score
		0-99		100 – 399		400 – 699		700 – 999		1000+
(a) Hazard(s) total =	Trivial		Tolerable	11	Moderate	27	Substantial	2	Intolerable	
(b) Points award	1 point		5 points		20 points		50 points		100 points	
Points total (a x b)			55		540		100			
<b>695</b>										

Systems	Last Test Date	Systems	Last Test Date	Systems	Last Test Date
5 year electrical	21/01/2024, and 24/2/2024	Fire alarm system	26/01/2025	Fire Dampers	08/01/2025
Dry risers	15/10/2024	Fixed appliance testing	18/11/2024	Fire/Vibration pillows	N/A
Emergency lighting	16/10/2024, new install ongoing	Lightning conductors	29/05/2024	Smoke vents	No records provided

Fire drill	29/01/2025	PAT testing	28/10/2024	HV maintenance	04/03/2024.
Firefighting equipment	01/2025	Gas service visit	21/10/2024 boilers		

### Guidance notes on completing the template

*Article 9 of The Regulatory Reform (Fire Safety) Order 2005 (RRO) requires the responsible person to make a suitable and sufficient assessment of the risks to which relevant persons are exposed. This document should be used in conjunction with the relevant building regulations and associated guidance.*

- The **building risk profile** is established from the guidance in BS9999. A = Occupants who are awake and familiar with the building; B = Occupants who are awake and unfamiliar with the building; Ci = long-term individual occupancy (individual flats without 24hr maintenance and management control on site) and Cii = long-term managed occupancy (serviced flats, halls of residence, sleeping areas or boarding schools). Combine this with a fire growth rate of 1) slow 2) medium 3) fast 4) ultra-fast to create the profile e.g. A2 (occupants awake but unfamiliar with a medium fire growth rate)
- The **'total points score'** box on page 1 should be 'filled' with the appropriate colour indicating the level of risk. In the example below, 500 points = Moderate (400-699) which is orange.
- The **'Total Points Score'** is calculated from the hazards identified in the action register at the end of the document. Total up the number of hazards assessed as 'trivial', 'tolerable', 'moderate' etc and insert into the table (below, for example, there are 10 actions recorded as tolerable, 15 as moderate and 3 as substantial). This enables you to produce a point score for each range which, totalled, is the 'Total Points Score'.

Risk Level Indicator										Total points score
0-99		100 – 399		400 – 699		700 – 999		1000+		
(a) Hazard(s) total =	Trivial	Tolerable	10	Moderate	15	Substantial	3	Intolerable		<b>500</b>
(b) Points award	1 point	5 points		20 points		50 points		100 points		
Points total (a x b)		50		300		150				

- The **'Suggested date of next review'** is based on the risk level indicator. In the example above, a score of 500 means the risk is 'Moderate' requiring a review every six months.

Trivial (1)	Every two years or when there is a significant change affecting fire precautions
Tolerable (2)	Every two years or when there is a significant change affecting fire precautions

<b>Moderate (3)</b>	Every six months until the risk reduces to tolerable (or when there is a significant change affecting fire precautions)
<b>Substantial (4)</b>	Every month until the risk reduces to moderate (or when there is a significant change affecting fire precautions)
<b>Intolerable (5)</b>	Every week until the risk reduces to substantial (or when there is a significant change affecting fire precautions)

In addition, you should continually review the action log to see that the fire risk is being progressively reduced.

### Fire Risk Level Indicator

Likelihood of fire	Classification of fire risk		
	Likely consequences of fire:		
	Slight harm	Moderate harm	Extreme harm
<b>Low</b>	Trivial risk (1)	Tolerable risk (2)	Moderate risk (3)
<b>Medium</b>	Tolerable risk (2)	Moderate risk (3)	Substantial risk (4)
<b>High</b>	Moderate risk (3)	<b>Substantial risk (4)</b>	<b>Intolerable risk (5)</b>

In the process of every fire risk assessment, an assessment should be made of the fire risk in the building. It is usual and acceptable for the fire risk to be expressed in terms of one of a number of predetermined categories of risk (e.g. “trivial”, “tolerable”, “moderate”, “substantial” or “intolerable”).

### Definitions

Risk level	Action and timescale
Trivial (1)	No action is required, and no detailed records need be kept.
Tolerable (2)	No major additional controls required. However, there might be a need for improvements that involve minor or limited cost.
Moderate (3)	It is essential that efforts are made to reduce the risk. Risk reduction measures should be implemented within a defined period. Where moderate risk is associated with consequences that constitute extreme harm, further assessment might be required to establish more precisely the likelihood of harm as a basis for determining the priority for improved control measures.

**Substantial (4)**

Considerable resources might have to be allocated to reduce the risk. If the building is unoccupied, it should not be occupied until the risk has been reduced. If the building is occupied, urgent action should be taken.

**Intolerable (5)**

Building (or relevant area) should not be occupied until the risk is reduced.

## Background

### Provide an outline of the building, its location, and its use

The school is laid out in various wings and includes an attached but essentially separate building (Synthetic Chemistry).

#### **Synthetic Chemistry**

Synthetic building has a vast majority of the 'wet chemistry' research in this 6-storey building. Some of the 1<sup>st</sup> floor and all of the 6<sup>th</sup> floor is occupied by plant room space. This is a 'triangular' building with each of the long sides having a corridor which essentially meets at the apex. In between the corridors are the laboratories. Outside (the clean corridor) are offices the full length. The 'dirty' service corridor is on the opposing outside wall. There is a stairwell at each end of the building effectively linking the clean and dirty corridors by protected stairwell lobbies.

#### **West Block Main Chemistry**

The West Block is 8 storeys (7<sup>th</sup> & 8<sup>th</sup> floor plant rooms) with workshops, solvent store, goods inward bay, compressed gas bottle storage and a lecture theatre attached to the base as extensions; there are very large teaching laboratories on levels 5 and 6. Each of these is accessed from a small foyer centred on 2 passenger lifts and stairwell with an internal fire escape stairwell at the far end from level 7 to 3.

#### **South Block Main Chemistry**

5 storey South Block is linked to the west by 3 floors of seminar and welfare rooms with a sub-floor of rooms with electronic instruments and entails administrative offices and Dry (instrumental) chemistry laboratories.

#### **East Block Main Chemistry/Biomedical Science**

East Block is shared with the Faculty of Biomedical Sciences Teaching laboratories (levels 2 – 5), with Chemistry being responsible for floors 0 (base), 1 and 6 (top) where there is a mixture of wet and 'dry' laboratories.

The link, South and East Blocks are all based around rooms on either side of a main corridor. The 3<sup>rd</sup> and 4<sup>th</sup> floor corridors linking South and East block are known as the AIMS Centre which has a spiral stair between the 2 floors.

In the corner between the East and South blocks, on Floor 2, there is a single storey area containing 3 large lecture theatres centred around a large foyer (East Foyer). These all link to the main blocks (fire exits) with the main access to the foyer being from the main entrance in the link/West Block intersection.

East Building:

**Lower Ground:** Laboratories, Offices.

Plant Ground floor: Laboratories, Offices.

Floors 2, 3, 4 and 5 Faculty of Biomedical Sciences Teaching Laboratories, Workshop and Offices. 6<sup>th</sup>. floor: Laboratories and plant room.

The East building is linked by a bridge from the Biomedical Sciences Building C Floor to East Level 4. The bridge acts as a 1-hour fire break between the buildings each having their own dedicated fire alarm system.

**South and West Buildings**

Lower Ground: One Laboratory, Plant. Ground floor: Laboratories, Offices.

1<sup>st</sup> floor: Goods inwards, Stores, Workshops, Laboratories and Offices.

2<sup>nd</sup> floor: Main Entrance, Foyers, Lecture Theatres, Administration and Offices.

3<sup>rd</sup> floor: Laboratories, Offices, NB Roof of E Foyer, polystyrene liners/bitumen, Link corridors.

4<sup>th</sup> floor: Laboratories, Offices, Link corridors.

**West Building only:**

5<sup>th</sup> floor: Laboratories, Offices.

6<sup>th</sup> floor: Laboratories, Offices.

7<sup>th</sup> floor: Plant Room.

8<sup>th</sup> floor Plant Room.

**Synthetic Chemistry Building:**

1<sup>st</sup>. Floor Safety Centre Laboratory and Office, Plant 2<sup>nd</sup>, 3<sup>rd</sup>.4<sup>th</sup> and 5<sup>th</sup>. floors Laboratories and Offices.

6<sup>th</sup>. floor: Plant.

Synthetic Chemistry Building – ‘wet’ research chemistry, offices, all floors the same except for the Ground floor and roof where plant is held.

West Block – large undergraduate teaching laboratories on 5, 6, some wet research. Some instrumental (dry) Chemistry, Workshops, Lecture theatre.

W/S link – welfare and offices/seminar rooms.

South Block – Wet /Dry chemistry and administrative offices on 1 and 4.

Administrative offices on 2. Dry research chemistry and offices on 3.

East Block – Wet/Dry research chemistry on 0 and 1, Wet special hazardous chemistry on 6.

Levels 2 – 5 occupied by Biomedical Sciences Undergraduate Teaching Laboratories and accessed by link bridge onto level 4 from C floor Medical Sciences building with separate main entrance onto patio at level 2.

AIMS Centre is used for undergraduate teaching, seminars and teaching related events.

South/East Intersection – Large foyer (East Foyer) leading to 3 large lecture theatres belonging to the University Learning Facilities management, not Chemistry, so can be used by any School/Department and some public events. When not in use for teaching, this area and LTs used extensively for conferences and hired out for other events use includes occasional evenings and weekends. LTs 2 & 3 offer level approach to designated accessible galleries.

Events risk assessment is completed by the organiser prior to event.

<b>Adjoining properties – proximity to building and use/occupancy of property</b>	This report considers the Chemistry building. The Biological Sciences also occupy the west Block – however, this report does not consider this area.
<b>Materials used</b>	Concrete, Inner walls steel frame concrete curtain walls, Terracotta rainscreen panels Rockwell insulation behind (Rear of main chemistry). Reconstituted stone, render painting (front).
<b>Roof construction</b>	Concrete and Bitumen, some steel profile, and some Trocal type materials.
<b>Cladding</b> (ACM, HPL?) Detail location and type	Cladding present. Rendered insulation system (Epoxy render with rockwool insulation mechanically fixed to the original concrete) Rainscreen system comprising vertical hung terracotta tiles over a metal grid again incorporating rockwool or similar insulation.
<b>Lifts</b>	6 passenger, 1 goods (No evacuation lifts onsite).
<b>Number of floors</b>	East, West & Synthetic 6; South 3.
<b>Number of basements</b>	One.
<b>Total floor area</b>	29,000 m <sup>2</sup> .
<b>Number of staircases</b>	5 plus 2 in Synthetic.
<b>Number / location of any lightning control devices</b>	37 in total (see map for locations in Fire Manual).
<b>Occupancy (staff/visitors)</b>	Day: 400-2000 (dependent on term time) Evening: 100- 500 Night: 5-10 Weekend: 50-500  <b>Predominantly staff and students.</b>
<b>Fire history</b>	<ul style="list-style-type: none"> <li>2007 - Fire in X-ray crystallography laboratory. Fire contained in lab and extract ducts but extensive smoke damage to other areas. Source of ignition not wholly established- possible electrical fault in microscope, 3 levels of East building were affected by smoke.</li> <li>2011: Bin fire in external waste bin. All lab waste is now disposed of as hazardous waste and does not enter the general waste bins. It was not believed to be malicious/arson. Security of area reviewed .... Confined to bin, external no smoke in building, bins now locked when not in use, believed not to be malicious/arson.</li> <li>2018- Small fire outbreak in the safety centre contained in the fume cupboard (N103). Fire was quickly extinguished by member of staff Tony Rogers. No damage caused; heat detector replaced. Cause of fire chemical mix up, sodium accidentally mixed with water causing ignition.</li> <li>2018 – Small fire contained within fume cupboard N401(Synthetic chemistry), flames instantly distinguished by member of staff no damage caused, staff member thought to be lone working and not adhering schools H&amp;S policies. Action for school to address, student is currently suspended from entering labs, investigation ongoing.</li> </ul>

	<ul style="list-style-type: none"> <li>2018 - Small bin fire caused by pyrophoric material being taken from a fume cupboard and put on a paper towel in a bin which caught alight. Richard Sherwood extinguished the fire with a fire extinguisher. Paul Pringle (School Safety Advisor) has put procedures in place via building wide communication to all staff.</li> <li>2020 -Small fire (Synthetic Chem) extinguished.no property damage. Fire caused by student using a coolant bath of Acetonitrile and Acetone that had overflowed onto equipment's plug being used in the experiment, school safety advisor to follow up with student and put actions plans in place, SSA will distribute information.</li> <li>2021 – An explosion occurred in Lab N409 in SCB. A flask containing CaH<sub>2</sub> and methanol exploded, destroying the flask and one fume hood window overnight at around 0100. The explosion was likely a result of a pressure build up. The pressure was able to build up due to a closed tap, which a student had forgotten to open or not opened enough the night before. There was no fire involved in the incident and no injuries. The School Safety Advisor followed up with the student and actions were put in place to communicate awareness of safety protocols by the SSA.</li> <li>2021 - (29.11.21) A sudden loss of inert nitrogen gas under pressure occurred in a gas cylinder store when a staff member was changing a gas pipe, causing injury to the staff member. A follow up investigation and report is being conducted by UoB Safety &amp; Health Services which will be shared with the school. The report will be conducted by an independent contractor to review cause. UPDATE The loss of containment was caused by the replacement of the original gas manifold with an incorrect model which was missing a critical safety component - a manual shut off valve. The absence of the valve allowed the full cylinder pressure from the backup supply to enter the house supply pipework which was rated for maximum working pressures almost ten -fold lower than the cylinder pressure.</li> <li>November 2022 – Patio Fire on 3<sup>rd</sup> floor external patio level caused by contractors working externally on the patio replacement works caused smoke to penetrate the Chemistry East Block, resulting in a fire alarm activation and subsequent evacuation of the building. Following investigations by Buckley Lewis, it has been confirmed that the stairwell which saw smoke penetrate the building from the patio and is on an escape route, does not comply with Building regs and is not a protected stairwell. There is a current Asset Maintenance project in progress to update the stairwell to comply with Building regs as the stairwell cannot be taken out of action as an escape route.</li> </ul> <p>February 2023 – A fire broke out in the Laser Cutting room in the Mechanical Workshop in Chemistry Building after hours. Safety &amp; Health Services for UoB are currently investigating the possible cause of the fire. Details of the outcome to be added once published. The fire remained contained in the Laser Cutting Room which was badly smoke damaged. Avon Fire attended.</p>
<b>Assessment Review history (include details/dates of previous reviews)</b>	02/02/2020, 04/03/2019, 11/11/2022, 7/9/2022, 15/02/2023. The auditor notes that the planned review of 15/8/2023 was not undertaken.



<b>A1 GENERAL FIRE PRECAUTIONS</b>			
<b>LIMITATION OF FIRE SPREAD</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	<p><u>Provide an outline of the building's structural provisions ensuring you identify potential fire hazards and risk areas within the premises.</u></p>	<p>Record systems and procedures in place for managing these structural provisions.</p> <p>If action is needed record this in the action log.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p>

<b>A1</b> <b>GENERAL FIRE PRECAUTIONS</b>	
<p>Items to consider:</p> <p>Structural provisions and standards they have been installed to meet:</p> <p><i>Is the integrity of fire-resisting compartmentation maintained (wall and ceiling linings, roof spaces, fire dampers and ducts through fire-resisting partitions)?</i></p> <p><i>Are all exits and staircases protected from ingress of smoke and fire?</i></p> <p><i>Are escape routes protected for a minimum of 30 minutes?</i></p> <p><i>Are fire doors in good condition, functioning correctly and not wedged open?</i></p> <p><i>Are lifts in protected shafts?</i></p> <p><i>Higher risk areas sufficiently separated with fire-resistant construction?</i></p> <p><i>What about separation between adjacent buildings?</i></p> <p><i>Look at any cladding on the building, its composition and potential to spread fire externally. This should include any attachments to the walls such as balconies.</i></p> <p><i>Consideration of green roofs and walls and irrigation systems to prevent drying out.</i></p>	<p>Fire in an unoccupied space e.g. unoccupied room – typically with electrical appliances left turned on.</p> <p>Fire spread via vertical shafts or horizontal ducts (water/electricity/comms) throughout the building.</p> <p>Fire spread through combustible structural elements: timber floors, joists, roof joists, timber cladding, staircases etc.</p> <p>Fire spread through large quantities of combustible materials other than above, e.g. paper, packaging, archived materials etc.</p> <p>Fire spread through poor installation of fire precautions</p> <p>Fire spread through poorly maintained fire precautions</p> <p>Fire spread through poorly used fire precautions e.g. wedged open fire doors – give examples</p> <p>Fire within an assembly space e.g. lecture theatre, large hall, Hall bar, dining hall etc.</p> <p>Fire in a location with hazardous materials, or quantities of flammable materials results in rapid spread and significant loss.</p> <p>Plant rooms – all areas have heat and/or smoke (dual) detectors.</p> <p>Fume cupboard and air handling ducts. Fire dampers present. Ceiling void above West Block foyer. NB lift shafts vulnerable but have protected lobbies.</p> <p>Fume cupboards in each Lab in Synthetic Chemistry all extract into one common Lab extract duct. The extract duct is a motorised fire damper which closes on any fire alarm activation (anywhere in the building). This would prevent any extraction from fume cupboards within the lab.</p> <p>Each Lab then extracts into the common vertical riser. There are four separate risers. At each floor level there is a mechanical fire shutter. This shutter activates only on heat to release the mechanical hold-back device.</p> <p>Polystyrene lining under patio paving. Some wood panelling in West wing, surface treated with fire retardant in some areas such as foyer/café area.</p> <p>Compartmentation by room not proven but no large accumulation of such combustibles as management procedures in place to limit them to 50L per space.</p> <p>Fire precautions controlled by instruction in local rules and staff awareness/vigilance.</p> <p>Several large lecture theatres result in higher occupation in a smaller area.</p> <p>Catering outlet in West Foyer is lower risk due to the catering offered with staff supervision.</p> <p>Potential for significant “visitors” if events are held on site.</p> <p>Non-intrusive fire risk assessment completed.</p> <p>No.</p>

A1 GENERAL FIRE PRECAUTIONS	
	<p>An extensive survey of above suspended ceilings and in ducts carried out by Buckley Lewis and has identified some areas where remedial work is required to maintain protection, particularly in relation to riser shafts, however areas still observed to be defective. Action 1 raised below.</p> <p>Routine 6 monthly check of fire doors by Estates Assistants and repairs scheduled as necessary. Reported that there are a number of outstanding door defects to be actioned still.</p> <p>Remedial actions on numerous Fire Doors in Chemistry, identified in Jan 2023 by Estates. Repairs remain outstanding and have been chased by FM. Defects observed during the visit. Action 42 raised below.</p> <p>Fire doors that are required to be open for any period of time must be equipped with auto fire closers or Dorgard devices. Doors observed to be wedged open. Action 46 raised below.</p>

<b>A2 OCCUPANTS AT RISK</b>	<b>COMMENTARY</b>  Provide an outline of the people who use the building ensuring you identify potential fire hazards and risk areas within the premises	<b>EXISTING CONTROL MEASURES</b>  Record systems and procedures in place including training and information given.  If action is needed record this in the action log.	<b>FIRE RISK</b>  Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>All people who use the building, paying particular attention to people who may be especially at risk. Is there a risk for people in the vicinity of the building?</p> <p>These could be sleeping persons, disabled persons, lone workers, non-English speaking persons, contractors, or visitors.</p>	<p>Any persons with disabilities e.g. physical, hearing, eyesight.</p> <p>Staff/Students with language difficulties.</p> <p>Lone working including location.</p> <p>Contractors and their working location, inductions carried out prior to works commencing.</p> <p>Visitors Instructions or information given</p> <p>Conferences, ceremonies, public events etc: Where held, arrangements for evacuation of disabled in place &amp; working?</p> <p>Lecture theatres – maximum numbers in attendance. It is unacceptable to allow more people into a theatre than it is designed/intended to accommodate.</p> <p>SCONUL users (Society of College, National and University Libraries) reciprocal scheme allows other university library users to borrow or use books and journals.</p>	<p>PEEPS prepared as required, some temporary PEEPS issued from time to time due to injury.</p> <p>Records available in the fire lock box.</p> <p>Multilingual staff and students. Most staff and students are required to have good language skills in order to undertake course/research even if English is not their first language. Fire wardens aware of potential lack of comprehension.</p> <p>School policy applies to this area. Guidance in local rules, the application of these and audit of them are under school control.</p> <p>Occasional work by DLO and contractors with managed access. All contractors' sign into the building – location and mobile contact numbers recorded. Safety inductions into the building carried out, also safety information at contractor registration in Estate office carried out prior to works commencing.</p> <p>Since the Covid 19 pandemic, fewer Fire Wardens are now on-site due to the introduction of Blended Working by the UoB. The Fire Safety Office has since instilled a message to all UoB staff, advising everybody to take responsibility as a Fire Warden role in an evacuation. Fire drills have proven that sometimes there are not enough fire wardens to man fire doors, the overall numbers should be increased. Out of hours there are no wardens on site.</p> <p>Action 43 raised below.</p>	<p>No.</p>

		<p><b>Visitors</b></p> <p>Visitors escorted supervised by staff member/host. Induction/safety information completed by host. Some limited conference use in lecture theatres, hosts are required to provide suitable information to keep the visitors safe.</p> <p>A PEEP system in place for disabled visitors and this is generally well-managed although it does not preclude unexpected visits on Open Days or during term. There are fire wardens and refuge point for removing people from the building in the event of fire.</p> <p>LT1 – 336, LT2 – 196, LT3 – 196 all around East Foyer (total max 732) LT4 – 100. Several large teaching labs with occupancy of 100. A number of small seminar/ meeting rooms varying from 6 – 50 occupants. Supervised by lecturers. Room booking control in place. (LFM)</p> <p>Library - managed by Library staff, induction must be completed upon arrival in event of emergencies, access only given on approval from Student Engagement Senior Coordinator (Visitor Access).</p> <p><b>Lone Working</b></p> <p>The security of the building is balanced against free access to carry out research, this does increase the fire risk to the premises. The auditor understands that procedures are in place and Postgraduate's have free access. However, there is reported evidence that Undergraduates are gaining access and when they cannot exit via card, the emergency override is used. This compromises security and leaves the building vulnerable to arson.</p> <p>Action 41 raised below.</p>	
--	--	---	--

**A3  
EMERGENCY PLAN  
AND PROCEDURES**

Outline your emergency plan and evacuation drills.

State the person nominated to implement those drills.

The current alarm system is a single stage alarm with an automatic signal to Faculties Assistants and then security lodge.

There is currently no pre alarm, all occupants must leave the building as quickly as possible using the normal evacuation routes. Congregation should occur at the appropriate assembly points, staff/students are not permitted to re-enter the building until advised by Fire brigade. Assembly points are located - the Upper-Level Patio/University Walk Area is the main Assembly Point.

The South Side Car Park is a second assembly point following exit by the Chemistry Stores. A pre-assembly point on the east side of the Building on Level 1, For the Synthetic Chemistry Building, assembly points are near the entrance to the Drama Department or on the upper level by Queens Buildings.

On alarm activation.<sup>1</sup> During working hours, either the duty Estates Assistants, FM/Technical manager/Security team (fire investigation team) will initially investigate root cause, to determine if alarms are a result of a real fire. The building fire alarm system covers most areas, escape routes with detection in rooms opening onto escape routes and passageways will activate on detecting the heat and/or smoke from a fire or if someone were to activate a manual call point. This will result in the continuous sounding of the fire alarm. Location of the fire will be indicated on the fire alarm system control panel (located in the foyer opposite reception)\*\* member of the fire alarm activation team to remain in the lodge at all times to assist with calls from refuge point (wheelchair users) \*\*\* also assisted by the security team use of an evac chair if required.

Either the Facilities Manager/Technical Manager will contact Security (if not in attendance) and to stand them down if the signal is a false alarm. Out of hours Security will send a team to search for signs of a fire if they receive an alert via the Gemini link, hear the fire alarm or receive a report.

In the event of an actual fire, this will be confirmed by the fire investigation team (FM/Technical manager/Security) the building will be evacuated to the assembly points. Fire Wardens are responsible for ensuring that the building is evacuated and liaise with the Local Incident Co-ordinator for the Building, following the Emergency Responders Actions, (Tech Manager/Senior Chemistry Personnel). Staff/students are not permitted to re-enter the building until advised by the fire brigade in the event of a major fire incident.

Assembly points are located as follows:

- No 30 - 1/9 Old Park Hill car park Ass/pt for: Chemistry.
- No 31 - Medical Avenue Ass/pt for: 1/9 Old Park Hill + Lunsford House + Drama + Synthetic Chemistry.
- No 34 – Rear of Queens Building – primarily for Tower View & 97 Woodland Road, however, may receive no's from Synthetic Chemistry also.
- No 28 – Bottom of Indecision Steps – Primarily for Biomedical Teaching Labs, linked to main Chemistry.
- No 27 – Top of Indecision Steps – Primarily for Queens Building, though may receive no's from Chemistry.

The Upper-Level Patio & University Walk Area is the main assembly point, fire wardens encourage occupants to congregate on University Walk due to the number of people using this area, the steps to the patio must be kept clear. In the event of extended evacuations where numbers require moving away, Fire Wardens will encourage large numbers to attend other locations, (e.g. Senate House).

Staff should be familiar with at least two routes from their area to a fire exit (marked) by the green running man and arrow or fire exit signs). There are multiple exits serving the school buildings. If in any doubt of the exit routes, then liaise with the Fire Warden who will be able to help you in the event of a fire.

Fire evacuation drills are carried out each term organised by the Facilities Manager liaising with the building occupants these will take place when the building is fully occupied all occupants are familiar with the fire drill. Fire drill records available on site.

#### A4 COMPETENT PERSONS

<p>Identify any person who is responsible for the day to-day fire management of the premises and any levels of competency they may hold</p>	<p>The University has a fire safety policy which outlines the responsibilities of those responsible for day to day fire management. The policy is available online but is paraphrased below.</p> <p><i>The Director of Estates will, so far as is reasonably practicable, ensure that a fire risk assessment is undertaken, and appropriate control measures are put in place.</i> In practice this means the fire risk assessment is undertaken by the zonal Facilities Manager. The Facilities Manager will have passed the NEBOSH General Certificate as a minimum and attended additional FPA courses in Advanced Fire Risk Assessment.</p> <p>Management of active and passive fire safety measures come under the remit of the larger Estates team and are primarily managed by the Capital &amp; Maintenance Infrastructure/Compliance team.</p> <p>Day to day monitoring of the fire panel, emergency lighting central battery and weekly routine testing comes under the remit of the Site Services team and is carried out by the porter.</p> <p><i>Deans, Directors, Heads of School and Service will, so far as is reasonably practicable, ensure that all activities and processes falling under their control that present a fire safety risk are risk-assessed under the MHSW Regulations and brought to the attention of the Facilities Manager for inclusion in the fire risk assessment where appropriate.</i> In practice, Physics has a Safety Committee, Safety Steering Group, Safety Manager, School Safety Advisor, Technical Manager, Area Safety Managers and Safety Specialists for risk areas such as chemicals, lasers and radiation. These people generally have day to day responsibility for lab and School safety (including fire safety) arising from School activities. These are the responsibility of the Head of School although in practice these responsibilities are delegated to persons occupying the positions above.</p>
<p>Identify any person who is responsible (at area or regional level) to assist the local manager and any levels of competency they may hold in that area</p>	<p>The University has a Senior Health and Safety Advisor who specialises in fire safety and who provides fire safety training (training for fire wardens, fire safety awareness, fire alarm investigation, safe use of fire extinguishers, operation of evacuation chairs, operation of evacuation lifts), information, advice or help for Facilities Managers carrying out fire risk assessments and general advice on fire safety to staff, students or anyone requesting the information.</p> <p>The Senior Health and Safety Advisor is a qualified fire risk assessor, who has received training at the Fire Service College in Moreton-in Marsh (basic and advanced fire safety engineering, firefighting with fire extinguishers, fire rescue technique) with 20 years practical experience in fire safety advice, guidance, training and risk assessment.</p> <p>Previous fire risk assessment was undertaken by Adam Scotchmer, consultant, of William Martin, a third party accredited fire risk assessor IFSM TFRAR No 147 in February 2025.</p>



#### **A4 COMPETENT PERSONS**

<p>Identify where fire marshals or wardens are provided, the level of training received and specific roles</p>	<p>Fire Wardens are provided on all floors within the building and given relevant online training and face to face training by Kevin McSweeney. (Refresher training also provided) in the role the fire wardens are to:</p> <ul style="list-style-type: none"> <li>- Verify there is a fire if the alarm is activated;</li> <li>- Call out Security/the Brigade if necessary;</li> <li>- Assist with evacuation of the building and prevent unauthorised re-entry following an alarm.</li> </ul> <p>Since Covid 19 and the introduction of Blended Working at the UoB, all staff onsite are reminded to take on the role of sweeping staff members out of the building, in the event that there may be a lack of Fire Wardens on-site. An instruction was sent out by the previous Fire Safety Officer, Richard Norris to advise.</p> <p>During a corridor conversation, a fire warden fed back that the fire warden training was well delivered and interesting, well done Kevin.</p>
<p>Identify any other person (including anyone who provides training or advice) with their relevant level of competency</p>	<p>As above, the University has a Senior Health and Safety Advisor (Kevin McSweeney) who specialises in fire safety and who provides training for fire wardens and information for Facilities Managers carrying out fire risk assessments.</p> <p>The school has safety advisors who have a good knowledge of Fire Safety and understand the risks that the process and procedures within the school can present.</p> <p>Where the nature of the risk warrants it, arrangements are made for the local fire station to conduct a pre-planning visit of the premises. At the School of Chemistry these familiarisation visits happen throughout the year. Last visit recorded 28/11/2022.</p>

#### **A4 COMPETENT PERSONS**

Outline the procedures you have in place for working with others who have responsibilities for coordinating fire safety measures for the building.

Generally, fire-related matters tend to go through the Facilities Manager who acts as the focal point for these issues. Fire safety is routinely discussed in the fortnightly school meeting the formal mechanism for discussing safety issues. It is usual practice that fire safety matters are addressed outside of this group by the Facilities Manager, Technical Manager and School Safety Manager or School Safety Advisor when urgent.

There are clear lines of demarcation, and it is understood that passive and active firefighting systems are managed by the Estates team (for which the Facilities Manager acts as point of contact/co-ordinator) and that issues/hazards arising from the activities of the school are managed by the Technical Manager, School Safety Manager or School Safety Advisor under authority of the Head of School.

Routine maintenance and checks are carried out by a combination of Estates assistants, in-house maintenance staff and contractors. These activities are co-ordinated between the Site Services department, Compliance team, Maintenance team and Facilities Manager who liaises with the occupier to ensure that testing and maintenance does not impact negatively on teaching and research.

Where the wider Estates team carry out activities (generally refurbishments) within the building these are managed by a university surveyor or contract manager and work is carried out to meet modern building regulations. Planning and co-ordination meetings are held between the Estates department and occupier for all project work and these meetings cover all aspects of health and safety, not just fire safety.

During the visit there was plenty of evidence that fire safety management is undertaken, by competent people. However, the action list does show that there are 2 areas for improvement.

A comprehensive retrospective fire strategy and associated plans will enable all to manage the building, from a point of knowledge as to how the building works. It will also inform where improvements are required, due to extended travel distances and compartment integrity for example. Although competent persons such as Stantec, and Buckley Lewis have been appointed to undertake fire inspection works, these have been too focused on a particular element of fire safety, and the overriding structure is missing in respect of a fire strategy. This fire risk assessment considers Chemistry, yet the East Block is also occupied by Medical Science. From a fire strategy perspective, the building as a whole should be considered, this will inform the Facilities Management team as to the requirements for local procedures, fire alarm interfaces and fire exit route capacity. The cooperation and coordination between the different occupants can then be carried out from a knowledge of how the building works; this is not currently the case.

Local fire management, as detailed in the actions below is in part defective, this will be a product of local behaviours, and by default, absence of competence. Observations include - wedging doors open, plant rooms with excessive storage, use of fire exit routes as locations for ignition sources and combustible materials.

The way that an individual lab is managed from a fire safety perspective must also be considered. The fire risk assessment does not consider the individual risks from an individual experiment, or the risks within from equipment etc, these must be assessed and managed. This aspect of fire safety should be considered via a room by room risk assessment, the production of a lab hazard plan shows that in part this is done, and an audit could be undertaken locally by the "room owner". The auditor did not observe across the board, a formal structure in some areas, Glass Workshop for example, evidence of risk assessment and management was obvious. Local management must demonstrate an appropriate fire safety assessment and management structure, and by audit or inspection be proved to be in place and effective.

**A5**  
**MANAGEMENT OF DANGEROUS SUBSTANCES / PROCESSES**

Outline the procedures and policies in place to:

a) Manage dangerous substances or processes

b) Deal with incidents involving dangerous substances or processes.

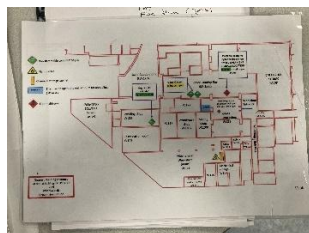
Remember to provide details of training and information given.

Remember to spot check that policies / procedures are being followed in labs, offices etc.

The school of Chemistry has its own set of local rules and additional specific Lab safety available online.

All Chemistry building users follow the guideline documents provided by the university Safety & health services found on the website (link attached) <http://www.bristol.ac.uk/safety/>.

Maps are available with hazardous symbols sited in the red box on site. This will allow the fire brigade to carry out a dynamic risk assessment in the event of an emergency.



Note the absence of information about the main solvent store.

Substances are required to be managed correctly and risks from dangerous substances are controlled to mitigate the effects of any fire or explosion arising from dangerous substances. H&S manager/senior technician complete safety audits to reduce risks to a minimum as the control measures below:

- Lab areas have minimal sources of ignition with the areas managed by qualified Lab technicians.
- Each lab is properly ventilated, with windows also accessible.
- Competent persons controlling lab space.
- Refilling of equipment should take place in extract hoods and away from sources of ignition.
- Care is taken to avoid spills and the consequences of a leak or spill is assessed. Spill kits are available in these areas.
- Equipment such as fume hoods are subject to an inspection and test regime with staff instructed, trained and supervised.
- Containers should be kept closed when not in use and spill kits in place.

An appropriate emergency plan should be written for the Solvent store area. Consider the calorific value of the typically stored contents and then consider the consequences of this fuel load on the building. The fire is likely to be rapid and quickly escape the room, via the ventilation provision. This will probably impact the adjacent properties.


The situation as it is may be unacceptable, and risk reduction may be required in the form of fire suppression systems, reduction in quantities stored, or storage elsewhere.

**Some issues were noted during the site visit, and these are considered in the actions below.**

BUILDING PLANS: Located in red box 2<sup>nd</sup> floor entrance to building.

List of location of specific hazards located in grab pack file.

Additional Hazard Information for Glass, Mechanical & Electrical Workshops in grab pack file.

<b>B1 PRINCIPLES OF PREVENTION</b>			
<b>IGNITION SOURCES (a)</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
<b>Smoking</b>	Explain how smoking is managed ensuring you identify potential fire hazards and risk areas within the premises.	Record systems and procedures in place for managing smoking If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Is smoking restricted to safe locations?</p> <p>Is there good housekeeping in these areas?</p> <p>Is there a no smoking policy?</p>	<p>University of Bristol has a no smoking policy within all buildings, smoking is restricted away from the areas of high risk, bin areas, gas bottled storage areas etc.</p>	<p>No smoking signage placed around perimeter of building, porters/security move staff away from the building diverting to smoking area if necessary.</p> <p>Smoking observed in the courtyard, rather in a designated location.</p> <p>A designated smoking area should be provided and maintained.</p> <p>Action 39 raised below.</p>	No.
<b>IGNITION SOURCES (b)</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
<b>Arson</b>	Explore areas vulnerable to arson ensuring you identify potential fire hazards and risk areas within the premises.	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Building security.</p> <p>Proximity of waste receptacles.</p> <p>Accumulation of waste materials.</p> <p>Awareness of anti-arson precautions.</p>	<p>External waste storage areas located under synthetic building overhang.</p> <p>The building is surrounded by soft landscaping, large patio area above 2<sup>nd</sup> floor level.</p> <p>Waste stored in a location that is considered to be controlled, via security and in part within secured areas (e.g. empty containers).</p> 	<p>External areas are generally in good condition, no debris/litter.</p> <p>Waste bin/chemical stores and cylinder compound are lockable preventing access, No accumulation of waste due to regular collections. No recent evidence or history, of arson on this building.</p> <p>Waste bins provided in patio areas in the Quadrangle.</p> <p>The security of the building is balanced against free access to carry out research, this does increase the fire risk to the premises. The auditor understands that procedures are in place and Postgraduate's have free access. However, there is reported evidence that Undergraduates are gaining access and when they cannot exit via card, the emergency override is used.</p>	No.

B1 PRINCIPLES OF PREVENTION	
	<div data-bbox="1317 304 1939 624"> <p>This compromises security and leaves the building vulnerable to arson.</p> <p>It is quite common for students to leave the building outside of regular hours using the green box to open the door. This leaves the door unsecured, increasing the risk of unauthorised access and an increase the risk of arson in the building.</p> <p>Action 41 raised below.</p> </div>

IGNITION SOURCES (c)	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
Hot processes and naked flames	Provide an outline of the hot processes within the building ensuring you identify potential fire hazards and risk areas within the premises.	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Used by authorised and competent persons?</p> <p>Is equipment clean?</p> <p>Are thermostats and flame failure devices regularly tested and working?</p> <p>Are combustible materials kept away from ignition sources?</p> <p>Is equipment used in correct locations?</p> <p>Commercial cooking?</p> <p>Are fryers covered by a hood and suppression system?</p> <p>Is there a process to monitor grease build up within the ventilation system/ductwork?</p> <p>Are filters cleaned or changed periodically?</p> <p>Is there a suitable shut down process in place?</p> <p>Self-catering facilities?</p> <p>Any specific considerations?</p>	<p>Bunsen burners on mains gas, gas boilers, analytical instruments (GC and FID), glass working, grinding and welding in workshop (West level 1).</p> <p><b>The Electronics Workshop</b> located on Level 1 manages the use of electrically powered equipment 3-phase 415 V, 50 Hz, single-phase 240 V, 50 Hz or 110v 50Hz – daily, of variable durations. It also deals with repairing equipment that contain laser sources – infrequent, variable durations. It also undertakes soldering and related activities e.g. de-soldering with the use of metal tipped soldering irons, electrically or gas powered, hot air rework stations, the use of multicore lead/tin solder and flux. – Daily, variable duration, with some prolonged periods. They also deal with the transport, storage, and use of solvents – weekly, variable duration which have potential for potential of fire &amp; explosion through working close to heat, vapour build-up and incorrect storage methods, containers, and labelling. The use of heating equipment. Laboratory ovens, heating plates and mantles, water, steam, oil and sand baths, hot air guns and rework station i.e. temperatures up to 800°C. The use of very high temperatures, furnaces – weekly, variable duration. The use of UV sources: UV-A, UV-B or UV-C – weekly, variable duration including UV heat lamps are used. They also deal with the construction, troubleshooting, testing, making adjustments, and repair of high voltage equipment – weekly, variable duration.</p> <p><b>The Glass Workshop</b> is located on Level 1, between the Stores and Mechanical Workshop. The glass workshop has 4 ovens/furnaces. Risk of fire to surrounding areas due to ignition of combustible materials. This risk is increased if the temperature control were to fail then an excessive temperature might be reached which may result in a fire. Furthermore, depending on the nature of the item</p>	<p>Risk Assessment for the Electronics Workshop activities available from the workshop manager.</p>	<p>No.</p>

being heated, there may be a risk of exothermic chemical reactions which increase the risk of overheating and/or fire.

Spot welding takes place in the Glass workshop and the welding will result in the production of extremely hot sparks. These sparks will be projected from the welding tool and present a fire hazard as they land unpredictably and may ignite combustible material (including the operators clothing).

The use of compressed gas, (portable propane gas) is in place in the Glass Workshop. The propane cylinder is size D, 23.5kg and is located and stored next to the lathe in the glass workshop itself (transported via a trolley).

A glass lathe is also in use in the Glass Workshop which produces open flames which are a source of ignition. Natural gas is also in use in the workshop and may also be used in combination with oxygen to heat glass. Hand torches (open flames) are used to melt glass (approximately 850-1000 degrees Celsius). The use of fixed burners and hand burners are in use in the Workshop, producing open flames. The hot glass products are also a source of ignition.

Compressed gases are in use (natural gas, oxygen, air, and propane) in the Workshop.

Oxygen cylinders are in use.

Cylinders are always transported via a trolley.

The oxygen cylinders used are size W, 80kg, 230

Bar. Locations are as follows:

- Glass Workshop South, Chemistry loading bay

**The Mechanical Workshop** is situated next to the Glass Workshop on Level 1. The Mechanical Workshop contains a Welding Shop used for welding, grinding & spraying of products. These are highly flammable products and are contained in pressurised containers. Spray paints used are 2100 Hard-Hat® Series Metallic Finishes (SDS here) ZG-90 (SDS here): hazardous ingredients are ethyl acetate; n- butyl acetate.

Risk Assessments for Glass Workshop activities can be found from the workshop manager.

All portable gas systems are subject to a CP7 or CP47 inspection by an external contractor (currently AIP Welding Supplies). This is carried out annually. CP7 is applicable to oxy fuel systems (e.g. oxyacetylene) and CP47 is applicable to single cylinders and mobile portable pressure systems (e.g. portable propane systems). A full Risk Assessment is reported to be completed by Science Faculty for its use.

Mains natural gas systems must be inspected annually by an external contractor.

Full existing control measures can be found in the RAs above.

Risk Assessments for the Mechanical Workshop process and activities can be from the workshop manager.



Welding processes use oxygen acetylene. Cylinder sizes: Acetylene size A (3430L, 59kg) and Oxygen size W (11090L, 80kg @230bar).

Acetylene is extremely flammable/explosive on its own, Oxygen/Acetylene mixed also flammable/explosive. Acetylene can form explosive salts when exposed to copper, therefore any piping used MUST be brass or stainless. Cylinders are transported using commercially purchased trolley.

Metal Inert Gas (MIG) welding activity used - is an arc welding process. Also, hard soldering takes place.

Location of isolation switch for mains gas on master drawings help in porter's lodge.

Hotplates, oil-baths, heating mantles, ovens, microwave ovens throughout labs and workshops. UoB catering outlet in West foyer – no cooking.

All welding equipment is subject to a CP7 or CP47 inspection by an external contractor. This is carried out annually.

CP7 is applicable to oxy fuel systems (e.g. oxyacetylene) and CP47 is applicable to single cylinders and mobile portable pressure systems (e.g. MIG, TIG, etc.).

Estates oversee any hot work permits potential for occasional hot work by DLO or contractors under permit to work.

Hot processes are carried out by competent persons, risk assessments usually completed in conjunction conducted by a person with appropriate knowledge, training, and experience. Specifically, a person who is aware of the hazards associated with hot work.

HWP are issued daily by estates for duration of the works, control measures are in place and are being followed.

The requirement for a minimum 1 hour fire watch post work completion as per 'Joint Fire Code'. Examples of the process seen.

Local gas isolation in labs. East block corridor under floor (labelled) and Plant Room Isolation valve marked on plans in the Estates Assistants Lodge currently.

No large cooking appliances/or fat fryers. Only panini maker/microwave.

Workshops and laboratories (reaction vessels). Policy on overnight experiments.

Potential for hot works by contractors/DLO but subject to permit to work.

All gas manifold equipment inspected and tested, however defects reported and confirmation that these issues have been resolved is required.  
Action 34 raised below.

IGNITION SOURCES (d)	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
<b>Electrical</b>	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Is wiring in good condition?</p> <p>Is there evidence of overloading including use of multi-block adapters?</p> <p>Trailing leads?</p> <p>Are electrical intake areas clear of combustible materials?</p> <p>To what standard was the electrical system installed?</p> <p>Is PAT testing up to date?</p> <p>What are the controls for managing personal appliances and leads?</p> <p>Is equipment used in correct locations?</p> <p>Are equipment and cables visually in sound condition?</p> <p>Are there appropriately sited facilities for electrical isolation of any photovoltaic (PV) cells, with appropriate signage, to assist the fire and rescue service?</p> <p>Electric Vehicle charging points inspected annually by competent contractor?</p>	<p>Wiring/cables appear to be in satisfactory condition, risk of daisy chaining</p> <p>Electrical risers need to be free of waste and materials.</p> <p>Electrical areas/switch room not free from combustion.</p> <p>Isolation switch marked on plans by fire alarm panel.</p> <p>Electrical supply including test date of fixed installation (location of isolation switch).</p> <p>Faulty, misused electrical equipment or poor installation.</p> <p>Personal equipment in use (not PAT tested).</p> <p>Hot surfaces and obstruction of equipment ventilation including kitchens, labs, boiler room, fans and motors and lab equipment etc.</p>	<p>Fixed electrical installations are maintained and tested by Maintenance Services on a 3 or 5 yearly cycle. Test certificates are held by the testing manager in Maintenance Services.</p> <p>HV systems are maintained by Estates.</p> <p>Schools/SSAS arrange appropriate PAT testing for their departments/sections. In recent years, PAT Testing by the School has not been completed on a regular basis. Following discussions, this testing has now been picked up locally and is being completed by the Electrical Workshop within Chemistry.</p> <p>Local rules and local user training.</p> <p>No visible evidence of overloading sockets etc Frequently used items/modifications/equipment as required.</p> <p>IT equipment tested every 4 years.</p> <p>Equipment in labs and workshops includes large electronic equipment including some with high power elements. Equipment on service contracts – lab inspections.</p> <p>All electrical switch rooms will be fitted with hazard signage and safety instructions appropriate to the risk.</p> <p>Storage of items in electrical switch rooms observed; better control measures will ensure access to the plant rooms is limited to authorised persons only.</p> <p>See the action about plant room storage, that equally applies here.</p>	<p>No.</p>

		<p>Fire extinguishers suitable for the risk will be provided for the use of trained persons only.</p> <p>Isolation switch marked on plans by fire alarm panel. Substation, East and West Plant rooms. Last Installation test (5 yearly defects resolved, minor works certificates on file.)</p> <p>Some failed PAT items reported these must be disposed of, sample of items indicated that the last test in a kitchenette area showed a 2023 test date. Action 33 raised below.</p> <p>Static ignition source from fan drive belts. Action 38 raised below.</p>	
--	--	--	--

IGNITION SOURCES (e)	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
<b>Heating</b>	<p>Provide an outline of the heating system within the building ensuring you identify potential fire hazards and risk areas within the premises</p>	<p>Record systems and procedures in place including training and information given. If action is needed record this in the action log.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p>
<p>Items to consider:</p> <p>Give a description of the system installed. Is it correctly ventilated?</p> <p>Is it physically guarded?</p> <p>Is appliance clear of combustibles?</p> <p>Are boiler rooms locked?</p> <p>Is appliance or system properly installed and serviced to required standards?</p> <p>Is appliance secured in position?</p> <p>What are the arrangements for fuel storage?</p> <p>What are the arrangements for changing gas cylinders?</p> <p>What are the arrangements for refuelling portable heaters?</p> <p>How are portable heaters managed? Can they be removed? Reduce the risk by using only oil filled.</p>	<p>Central gas boilers in main chemistry plant rooms located Synthetic 1<sup>st</sup> &amp; 6<sup>th</sup> floor - CHP engine housed in SCB level 1 plant room, observed to be off and possibly not in use. Self-heating and spontaneous ignition materials Extract fans for dust and fume removal.</p> <p>(Location of isolation switch, testing regime, date of last test, where records held).</p> <p>Control measures will ensure access to plant rooms is limited to competent persons only.</p> <p>Emergency Control Valves installed CHP unit is gas-fired. Local isolation in labs. East block corridor under floor (labelled) and Plant Room.</p> <p>Isolation valve marked on plans by fire alarm panel.</p>	<p>Boiler rooms are all well-ventilated and locked, key controlled by maintenance apart from 1.</p> <p>Regular maintenance on the boilers is carried out by onsite engineers. Records seen.</p> <p>Signage placed for authorised personnel only to enter plant areas.</p> <p>Synthetic Chemistry Fume cupboard system See building specific information.</p> <p>Electric heaters have been replaced with oil filled heaters.</p> <p>Competent trained persons are authorised to change gas cylinders risk assessments are carried out by H&amp;S officer.</p> <p>Pyrophoric materials etc. Use covered by COSHH/ risk assessments (held with tech teams).</p> <p>Most plants rooms have stored items, room for improvement. See the plant room storage action. One door observed to be unlocked. Action 14, 11 to secure raised below.</p> <p>Main chemistry large number of fume extract systems. Tested annually. Confirmation that the fume cupboard defects have been resolved. Action 31 raised below.</p> <p>Fume cabinets stay running on alarm activation but can be turned off using separate "fireman's switch" for each of four building areas. The location of the isolation Fireman's switches is located beneath the slave panels in the West Foyer, just behind the main fire panel and also in East wing old porter's lodge. No evidence of testing of these items. Action 18 raised below.</p>	<p>No</p>

IGNITION SOURCES (f)	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
<b>E-bikes, e-scooters, and Lithium-ion batteries</b>	Provide an outline of the bike/battery storage within the building ensuring you identify potential fire hazards and risk areas within the premises.	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p><a href="#">E-bikes</a> must be stored within designated bike stores (internal or external) and not within the main parts of the building (in rooms, corridors, offices, stores)</p> <p>Storage of e-scooters is not permitted on UoB property.</p> <p>Charging of e-bikes belonging to staff is not permitted. Charging of e-bikes belonging to students within residence is permitted with additional fire risk assessment of the area.</p> <p>Charging of Lithium-ion batteries should be considered within the equipment safety risk assessment and in accordance with <a href="#">UoB Lithium Battery Procedures</a>. I.e. in a fire-proof area or charging box and separated by compartmentation from storage areas.</p> <p>Items to consider:</p> <p><i>Does the store have minimum 30 minutes compartmentation?</i></p> <p><i>Is early fire detection installed and connected to automated fire alarm system?</i></p> <p><i>Consider the number of exits from the area, suitable travel distance to final place of safety. Where there is a single exit – store e-bikes at furthest point away from the exit and route.</i></p> <p><i>Consider adjoining rooms such as changing rooms or showers, the likely occupancy, and perceivable delays in evacuation. These areas should be separated from bike storage.</i></p>	<p>E Bikes and Scooters were not observed on site.</p> <p>No evidence that fire-proof area or charging box and separated by compartmentation from storage areas was in use.</p> <p>Lithium Iron use is everywhere, in mobile devices, vapes, button cells, to the point that it becomes impossible to risk manage the ignition source out of the building. The reality is that when they become damaged, defective or are of a poor quality, spontaneous failure is possible. There is no known absolute control measure of this ignition source, there is a need to approach the risk as part of the likely ignition in the premises. Policies are in place regarding their use – in E bikes and scooters for example, seek to reduce the risk; by reducing that particular risk however it may not have the desired effect.</p> <p>Having accepted that the risk is on site the approach should be to react to the ignition event, as one would do for any fire event, by good training of first responders. The ignition should be identified within 30 seconds (Good fire detection, and charging in occupied areas where necessary), deliver first aid firefighting measures within 2 minutes (sufficient firefighting measures) and a full emergency plan in operation within 10 minutes.</p> <p>It should be noted that fire safety management is designed to control the risk of ignition; by maintaining the equipment, this equally applies to these ignition sources.</p> <p>In addition, the consequences of an ignition are reduced by early detection, evacuation, good compartmentation and closed fire doors. These are discussed elsewhere in this report and apply equally here.</p>	<p>Lithium Iron use is endemic – from such items as vapes, portable devices etc, the provision of fire-proof area or charging box and separated by compartmentation from storage areas is perhaps not possible in a lab context.</p> <p>From a university wide perspective, consider undertaking communication that seeks to inform all as to the hazards associated with Lithium Iron, how to identify defects, emergency procedures, and the importance of correct disposal.</p> <p>There are additional control measures and risk reduction measures available, and these are discussed in the action table. Action 40 raised below.</p>	<p>No.</p>

<p><i>Are the bike stores secure from unauthorised access?</i></p> <p><i>Is housekeeping adequate? Unnecessary combustibles should be removed and the area should be as 'sterile' as possible.</i></p> <p><i>Consider internal materials (rain covers, equipment, lockers etc) and the extent to which these may spread surface flame.</i></p> <p><i>Consider any other equipment or services within the storage room as relates to life safety services or devices i.e. generators for evacuation lifts.</i></p>			
---	--	--	--

<b>B2 PRINCIPLES OF PREVENTION</b>			
<b>COMBUSTIBLES</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Look at housekeeping, particularly areas of storage and on escape routes ensuring you identify potential fire hazards and risk areas within the premises.	Record systems and procedures in place for managing housekeeping and storage If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Storage, trip hazards</p> <p>Furniture and furnishings should be in good condition without signs of wear and tear?</p> <p>Furniture should comply with relevant British standards and have a label showing Fire resistance.</p> <p>Mattresses, upholstery and furniture coverings supplied by the university must be CRIB 5 compliant.</p> <p>Decorations for seasonal and religious occasions?</p>	<p>General housekeeping is acceptable, most corridors/ escape routes are kept clear schools are advised to remove flammable items, current level of storage separation is acceptable</p> <p>Some corridors have started to become storage areas, and lab and office occupiers are being asked to remove these to a place of non-safety risk. (E.g. West Level 3, SCB). Also, Synthetic Chemistry Building Clean Corridor houses a photocopier.</p> <p>Upholstered furniture appears to be in good condition.</p>	<p>Termly property inspections carried out by the Facilities Manager identifying areas of concern to the school managers/technical managers</p> <p>Lab technicians to address these regular housekeeping issues.</p> <p>Waste is removed from site daily stored in loading bay compound of the building offices are generally clutter free.</p> <p>Good housekeeping is an essential part of effective fire safety management in minimising the risk of a fire occurring, some areas – such as plant rooms this was poor. Action 14 raised below.</p> <p>Incorrect storage of oil in plant area. Action 15 raised below.</p> <p>Fuel and oil storage in the CHP unit, if redundant to be decommissioned and made safe. Action 13 raised below.</p> <p>The issue of using corridors as storage will be considered in the escape route section.</p>	No.

DANGEROUS SUBSTANCES	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
<p>Items to consider:</p> <p>Gases, chemicals, radioactive substances, lasers, biohazards, sources of fuel that would assist fire growth</p>	<p>Explain what dangerous substances are present and in what quantities ensuring you identify potential fire hazards and risk areas within the premises</p> <p>Dangerous substances gas bottles, gas cylinders, other flammables are present in this building.</p> <p>Some labs have quantities of solvents in excess of 50 litres. Awareness and regular reminders needed that only quantities for daily use should be in labs, endorsed by formal and ad hoc inspections. Mains gas into building. Some volatile compressed gases.</p> <p>Mains gas into building. Some volatile compressed gases, and the extent of the spread of these systems and hazards results in an elevated risk of fire.</p> <p>From a life safety perspective, the provision of early detection and rapid evacuation is key. Both are subject to actions below.</p> <p>From a property protection perspective creating a separate compartment from each building would reduce the consequences of a fire, this is considered in actions below.</p> <p>The DSEAR assessment has an impact on fire safety, and the ongoing review of these risk assessments and any subsequent actions are a way of mitigating fire risk, they are raised as an action below.</p>	<p>Record systems and procedures in place including training and information given. If action is needed record this in the action log.</p> <p>Technical teams monitor and update hazards information database for chemicals/solvents/ compressed gases/radio-chemicals and sources. (Wide range of chemicals used in small quantities kept in labs) (floor plans held in file and porter's lodge).</p> <p>Gas systems and manifolds are inspected and come under responsibility of Chemistry technical managers.</p> <p>Gas cylinders supplied by Air Products and maintained; flammable gases are kept within gas safety cabinets inert gases are secured to walls.</p> <p>Awareness and regular reminders needed that only quantities for daily use should be in labs, endorsed by formal and ad hoc inspections, however observations on site do raise concerns in this area, that perhaps a bit of slippage in the 50L rule occurs. Action 10 raised below.</p> <p>The planned DSEAR review will drive improvements in this area, and as a consequence an action is raised. Action 8 to complete this review.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p> <p>No.</p>



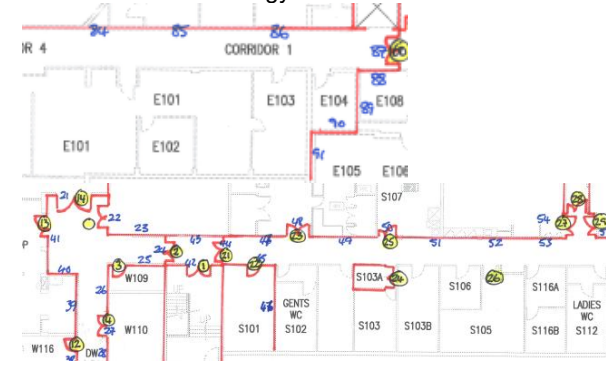
<b>C1 FIRE FIGHTING AND DETECTION SYSTEMS</b>			
<b>DETECTION SYSTEMS and firefighting equipment</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	<u>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises</u>	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Type and category of detection</p> <p>External assistance</p> <p>Unwanted fire signals</p> <p>Portable firefighting equipment (also CF with E1)</p> <p>If the fire-detection and warning system is electrically powered, does it have a back-up power supply?</p>	<p>The current fire detection system varies in areas some areas are category L2 or L3 however under GPR future refurbishment projects will be installed to an L1 standard.</p> <p>Only staff trained as fire wardens will use the fire equipment if they consider it safe to do so.</p> <p>Provisions for deaf or hard of hearing are provided.</p>	<p>All portable firefighting equipment is maintained/ serviced annually.</p> <p>Fire system maintenance is carried out periodically. Records seen.</p> <p>Control measures are in place surrounding building works, hot works permits are issued by estates, in regard to isolation procedures and covering of detectors. No covered detectors seen.</p> <p>Staff/students visit most parts of the premises regularly during the working day and it is anticipated that staff and or visitors would be able to detect a fire in the early stages to raise the alarm by the operation of a fire alarm call point and follow the procedure detailed in the fire action notice call points located by storey and on final exits.</p> <p>The fire alarm automatically signals Security when it activated (over the BOLD system).</p> <p>Portable induction loops available in theatres, beacons between zones. PEEP required to be raised where necessary, examples seen from the red box.</p> <p>Providing a retrospective fire strategy will inform the need for any upgrades to fire detection, given the resource allocated, this report should not be considered to be a fire alarm BS5839 L2 standard compliance check. Action 19 raised below.</p> <p>Minor defects observed to the fire alarm system, and additional detectors are recommended. Action 16, 17, 28 raised below.</p>	No.

<b>C1 FIRE FIGHTING AND DETECTION SYSTEMS</b>			
<b>MANAGEMENT PROCESSES</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Give a basic statement of system configuration i.e. <i>conventional or addressable? Cause and effect? No. of zones? Location of panel / MCP's etc?</i></p> <p>If the system is installed to different standards in parts of the building state what these are and location.</p> <p>Is firefighting equipment suitable for the risk?</p> <p>Who is authorised to use the equipment?</p> <p>Have you taken steps to prevent misuse? Do you have a testing regime in place?</p>	<p>Upon the fire alarm activation, a signal is sent to university's 24/7 security control room. Estates Assistants/ security officer and FMs have been trained to carry out investigations.</p> <p>If a cause for the alarm activation cannot be confirmed after initial investigations are carried out, e.g. faulty detector and if it is deemed safe for staff/students to re-enter the building.</p> <p>Upon a real fire, emergency service will be called.</p>	<p>The Main Fire Panel for both main Chemistry and Synthetic Chemistry is located adjacent to the porter's lodge. Single stage, automatic signal.</p> <p>Estate Assistance observed to be undertaking regular testing and co ordinating with maintenance and repair activities.</p> <p>Evidence of fire extinguisher maintenance seen. <u>Weekly fire alarm testing carried out every Tuesday morning 8am</u> Records on site.</p>	Yes.

D1 EMERGENCY ROUTES AND EXITS	
Size, number, and distribution of exit routes	<div>COMMENTARY</div> <div>EXISTING CONTROL MEASURES</div> <div>FIRE RISK</div>
<p>Items to consider:</p> <p>Sufficient escape routes with capacity for the maximum number of people likely to be present? Note any external escape routes.</p> <p>Are you displaying the correct signage?</p> <p>Fire safety signs must be photo-luminescent so that the glow of the signs will help occupants if the lighting fails during a fire.</p> <p>Is it consistent?</p> <ul style="list-style-type: none"> <li>- A safety sign explaining what to do in case of fire (known as a 'Fire Action Notice')</li> <li>- Safety signs marking fire exit routes, doors and assembly points</li> <li>- Safety signs showing the location of fire-fighting equipment such as extinguishers</li> <li>- Warning and Prohibition safety signs such as 'Danger' or 'No Smoking'</li> </ul> <p>Do escape routes lead to a place of ultimate safety? Are external escape stairs safe?</p>	<div>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises</div> <div>Record systems and procedures in place including training and information given. If action is needed record this in the action log.</div> <div>Control/condition satisfactory? <b>Yes/No</b></div> <div> <p>Double locks on some final exit doors – crash bars &amp; mag locks with break glass release.</p> <p>University policy not all doors single action release but signage in place to identify emergency break glass on magnetic locks.</p> <p>Automatic fire door release on most corridor doors. Dorgards used in some areas to allow safe access to rooms.</p> <p>Some final exit doors open onto areas near steps. Disabled evacuees will need assistance according to PEEP (located in file).</p> <p>Some may have temporary issues due to injury from time to time. PEEP's prepared as required.</p> </div> <div> <p>Routes to fire assembly points on Fire action notices and displayed at all final exit doors.</p> <p>Manual call points in corridors, stairwells, and at final exit points.</p> <p>Sufficient exit routes for number of people likely to be in the building we currently have 18 final exits plus 3 in the synthetic building.</p> <p>Some corridors have steel lockers and/or filing cabinets/ fridges/seating/photocopiers etc in some places but should be restricted to ensure the exit capacity is not reduced, nor introduce a fire risk.</p> <p>It is recommended a retrospective fire strategy is created by a competent/qualified Fire Engineer to better understand the building as a whole and how each block interacts. The shortfalls with travel distances/dead-ends/inner rooms among other issues, will be identified and solutions offered on how they should be corrected. It is recommended that scaled drawings are reviewed and updated as a matter of priority. Action 19 raised below.</p> <p>The issue of storage and photocopiers in fire exit routes have not been resolved, the action below considers this. Action 21 raised below.</p> <p>Full upgrade of signs is recommended by Stantec. Action 25 raised below</p> </div> <div>No.</div>

<b>D1 EMERGENCY ROUTES AND EXITS</b>			
<b>Stair sizes and protection</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
		Record systems and procedures in place If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Are there sufficient numbers of staircases?</p> <p>Are all staircases protected from the ingress of smoke and fire?</p> <p>Is the capacity of staircases adequate for people to escape?</p>	<p>5 staircases in main building. 2 in Synthetic.</p> <p>Emergency escape stairwells are protected from ingress of smoke &amp; fire separating from corridors and lobbies All exits routes and stairwells are 30 min protection from fire/smoke ingress, by fire doors/corridors and compartmentation.</p> <p>Buckley Lewis has identified some areas where remedial works are required to maintain protection as per report. Including suspended ceilings and ducts (held with Hard FM).</p> <p>Survey by Stantec showed indicated fire doors/ compartmentation, signage and escape routes needed upgrading.</p> <p>Routine 6 monthly check of fire doors by Estates Assistants and repairs scheduled as necessary, assessed fire doors as generally in good condition but has made some recommendations to further improve protection – works are planned to prioritise and remediate the recommendations contained in the report.</p> <p>Fire doors that are required to be open for any period of time must be equipped with auto fire closers.</p> <p>Non-intrusive Fire risk assessment completed by FM. An extensive survey of above suspended ceilings and in ducts have been carried out by Buckley Lewis Works were planned following the recommendations made in the report for all compartmentation upgrades, remedial works passed to project team to complete - no evidence available to show full completion of works.</p>	<p>All escape routes are frequently inspected, issues raised on maintenance help desk.</p> <p>Termly property inspections carried out to monitor any obstructions and ensure areas are kept free from hazards.</p> <p>Fire doors on the stairwells observed to closed.</p> <p>Fire exit route issues within the stairwells observed – items stored within stairwell, Synthetics, final exit. Action 47 raised below.</p> <p>South Block, the “alternative fire exit routes” on site are considered unsuitable, they are not protected and pass through unsuitable rooms such as labs and cleaning storage areas. Action 29 raised below.</p> <p>Roof fire exit routes observed to have defects, and additional permit to access required. Action 20 raised below.</p>	<p>No.</p>

<b>D1 EMERGENCY ROUTES AND EXITS</b>			
<b>Consideration of emergency routes/exits/lifts for the safe evacuation of disabled persons</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
Consider refuge areas, evac lifts, strobes/sounders, steps etc	<p>There are four designated Refuge points serving the Chemistry teaching Labs in the main building west wing.</p> <p>West Level 5 teaching labs in lift lobby and another adjacent to fire escape staircase.</p> <p>West Level 6 teaching labs in lift lobby and another adjacent to fire escape staircase.</p> <p>All have communication with the porter's lodge at reception.</p> <p>Refuge points serve areas where it is not possible to evacuate via a level route. i. e. if not able to use stairs and no fire evacuation lift is available. The Refuge point is provided as a waiting point for the main evacuation flow to pass thus enabling unhindered evacuation using one of the options listed below.</p> <p>There are no evac lifts in the building.</p>	<p>Refuge points are provided however the extent of the fire protection in the area is not known and a fire action sign would assist in appropriate use of the refuge. Action 4 raised below.</p> <p>Refuge intercom is maintained and tested, Plexus fire and security 14/10/2024, pass.</p> <p>The basement disabled persons refuge point at the back of the lecture theatre. Should be removed it does not have Intercom. It is not considered to be an appropriate location to wait. Evacuation from the lecture theatre should be to a place of safety. Action 5 raised below.</p>	No.

EMERGENCY ROUTES AND EXITS			
Dead end corridors and basements	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
<p>Items to consider:</p> <p>Are they covered by automatic detection or fire resisting construction and fire doors?</p> <p>No. of stairways serving the basement, whether the stairway also serves upper floors, how it is separated from the other escape routes?</p>	<p>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises</p> <p>Main chemistry building off lift foyer area office/labs within office areas.</p>	<p>Record systems and procedures in place including training and information given.</p> <p>If action is needed record this in the action log.</p> <p>All floors have fire detection; however, action elsewhere considers if the L2 standard is achieved.</p> <p>Observations of the plans provided, "marked up plans" indicate inner rooms and dead ends, corridors that are used as a means of escape with fire walls to one side only, (examples below) these appear to be in part unprotected routes, 30 minute walls and doors may not be provided, and detection may be insufficient, a review of the fire strategy will attend to this matter.</p>  <p>Action 19 raised below.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p> <p>No.</p>

<b>EMERGENCY ROUTES AND EXITS</b>			
<b>Emergency lighting</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
<p>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises</p>	<p>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises</p>	<p>Record systems and procedures in place including training and information given. If action is needed record this in the action log.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p>
<p>Items to consider:</p> <p>Do you have a testing regime?</p> <p>Is there compliance to BS5266 (i.e. lighting sufficient at each exit door, final exits, changes in floor level, equipment which may need shutting down, windowless rooms and toilets exceeding 8m<sup>2</sup> etc.</p>	<p>Adequate emergency lighting located along each of the exit routes including external stairs and pathways?</p>	<p>Emergency lighting on all exit routes, corridors etc regularly tested and records held: Monthly (Porters) Records seen in the fire logs on site.</p> <p>Annually (DLO Maintenance carry out annual 3 hour checks). Records seen.</p> <p>The records indicate that the central battery is checked, however the individual light fittings do not appear on the log, reported that they are checked this will be resolved by replacement lighting and Zetasafe bar coding.</p> <p>Additional emergency lighting is being installed. Once Zetasafe system is in place the testing regime will be better managed and, emergency lighting will be proven to be compliant.</p>	<p>Yes</p>
<b>Final exits</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
<p>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises</p>	<p>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises</p>	<p>Record systems and procedures in place including training and information given. If action is needed record this in the action log.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p>
<p>Consider size, number, where do final exits lead?</p> <p>Door fastenings – are they quickly openable and sufficient in relation to the no. of people using them</p>	<p>Sufficient exit routes for number of people likely to be in the building we currently have 18 final exits plus 3 in the synthetic building. Double locks on some final exit doors – crash bars &amp; mag locks with break glass release. University policy not all doors single action release but signage in place to identify emergency break glass on magnetic locks</p> <p>Automatic fire door release on most corridor doors. Dorgards used in some areas to allow safe access to rooms.</p>	<p>Routes to fire assembly points on Fire action notices and displayed at all final exit doors.</p> <p>Manual call points in corridors, stairwells, and at final exit points green brake glass points for override of the maglock.</p> <p>Sufficient exit routes for number of people likely to be in the building we currently have 18 final exits plus 3 in the synthetic building.</p> <p>Some corridors have storage, this is considered above.</p>	<p>No.</p>

EMERGENCY ROUTES AND EXITS	
	<div>Some final exit doors open onto areas near steps. Disabled evacuees will need assistance according to PEEP (located in file).</div> <div>Actions raised to improve final exit, this should consider if the door has 2 actions to achieve escape (Push bar and mag lock release) confirmation that they are signed and the widths (capacity) available for the occupancy will be part of the fire strategy review. Action 19 raised below.</div>



<b>EMERGENCY ROUTES AND EXITS</b>			
<b>Occupancy</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Identify likely occupancy figures, whether staff, students or visitors and floor space factors</p> <p>Is the building multi-occupancy?</p> <p>Sleeping occupants (who will be slow to respond and disorientated).</p> <p>Occupants who are sensorially impaired due to alcohol, drugs or medication.</p>	<p>Occupancy figures approx.</p> <p>Day: 400- 2000. Evening: 100- 500 mainly Lecture theatres if events take place. Night: 10 No lone working in labs. Weekend: 50- 500 mainly Lecture theatres if events take place.</p> <p>The building is populated by staff and students, floor space factors indicate occupancy levels are acceptable for the building.</p>	<p>All staff/students are provided with a building induction upon arrival or shortly after and are given overview of fire safety i.e. fire evac points, nearest escape routes.</p> <p>Termly fire drills are carried out to enable staff/students to familiarise themselves with emergency procedures and escape routes.</p> <p>Drill records available.</p>	Yes.
<b>Adjoining premises link</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>How does it work in line with evacuation procedures?</p> <p>Are there shared escape routes?</p>	<p>Link bridge from chemistry east wing to biomedical building, the bridge marks the boundary for both alarm systems. The 3<sup>rd</sup> and 4<sup>th</sup> floor corridors linking South and East block are known as the AIMS Centre which has a spiral stair between the 2 floors.</p>	<p>Automatic door guards, flashing beacon indicating fire alarm activation on both sides observed to be in place at Synthetic Chemistry bridge.</p>	Yes.

EMERGENCY ROUTES AND EXITS			
Management	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Are means of escape useable and available?</p> <p>Are routes covered in staff training?</p> <p>Are routes kept clear and hazard free?</p> <p>Are routes adequately lit?</p>	<p>All means of escape are usable and available. Six monthly Final Exit checks conducted by the Estates Assistants for the building, and any defects reported promptly.</p> <p>During induction to the building, information is given on evacuation routes.</p> <p>Most final exit routes were kept clear and hazard free.</p>	<p>The management of routes continues to be an ongoing issue, the use of fire exit routes as useful spaces for both temporary and permanent occupation continues.</p> <p>Defects observed and action 21 raised below.</p>	No.


EMERGENCY ROUTES AND EXITS			
Travel distances	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Do travel distances to a final exit meet the guidelines?</p> <p>Do inner rooms or rooms with initial travel on one direction, meet guidance?</p>	<p>Travel distances met building regulations at the time of build. Travel distances continue to meet current building regulations in all areas within the building with multiple escape routes on all floors,</p> <p>In general, fire and final exit doors may be easily and immediately opened by all persons who may need to use them.</p>	<p>The occupants of Chemistry have demonstrated during fire drills, conducted termly that it is possible to evacuate the workplace quickly and safely.</p> <p>All staff will be trained and familiar with the fire evacuation procedure and the need to direct people from the premises in the event of fire. The importance of Estates Assistants and Security in the UoB and the associated discipline and alertness of staff will ensure an above average standard of awareness and response to emergencies.</p> <p>Observations on site raised concerns as to the extent of the travel distances in the South block and West block.</p> <p>Defects observed and solution is to undertake a fire strategy review. Action 19 raised below.</p>	No.

Compartments and fire resisting partitions	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
<p>Items to consider:</p> <p>Are all exits and staircases protected from ingress of smoke and fire?</p> <p>Is escape route protected for a minimum of 30 minutes?</p> <p>Is the integrity of fire resisting compartments maintained?</p> <p>Are fire doors in good condition, functioning correctly and not wedged open?</p> <p>Do you have a testing regime for approved hold open devices on fire doors?</p>	<p>Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises.</p> <p>Improvements to compartmentation and signage. Ref: Buckley Lewis report.</p>	<p>Record systems and procedures in place.</p> <p>If action is needed record this in the action log.</p> <p>The status of the actions from the Buckley Lewis report was not fully known during the audit.</p> <p>Observations on site noted that pink foam, a gap filling solution that has limited application in relation to fire stopping, and should not be used, in a significant number of locations throughout the property.</p> <p>Significant fire stopping defects observed to the top floor South block plant area. Action 1 raised below.</p> <p>Documents viewed during the audit has information as to the fire door and fire wall locations on site. Defects observed and action 1, 27, 28, 42 raised below.</p> <p>Defective ceiling in the Synthetics block. Action 3 raised below.</p> <p>Fire shutter in the main store not maintained/inspected. Action 37 raised below.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p> <p>No.</p>

<b>E1 MAINTENANCE OF MEASURES PROVIDED FOR PROTECTION OF FIREFIGHTERS</b>			
<b>Wet/dry risers</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
Items to consider:  Identify location.  Do you have a testing regime? Is correct signage in place?	Dry risers to East wing and SCB are key controlled.	Contract in place for 6 monthly testing. Signage in place.  Location information in building specific information.	Yes.
<b>Suppression systems</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
Items to consider:  Give a brief description of the system.  Identify location.  Do you have a testing regime?  Is correct signage in place?	N/A.	N/A.	N/A.
<b>Firefighting shafts</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
Items to consider:  Identify location.  Is correct signage in place?	No firefighting shafts on site.  Dry risers on site, but not in full firefighting shafts.	In SCB there are external doors on each floor allowing access for fire brigade to lab corridor adjacent to dry riser outlets.	Yes.

<b>MAINTENANCE OF MEASURES PROVIDED FOR PROTECTION OF FIREFIGHTERS</b>			
<b>Automatic opening vents</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Identify location.</p> <p>Do you have a testing regime?</p> <p>Is correct signage in place?</p>	<p>Mechanical and motorised smoke vents in synthetic chemistry.</p> <p>Opening windows and panels in synthetic landings provide facility for smoke ventilation. No proof to show how this smoke control facility operates.</p> <p>East block fire dampers (teaching block) provided, automatic motorised.</p>	<p>PPM carried out by estates; records available from compliance.</p> <p>Fire damper defects have been reported, and it is not known if these are resolved. Action 30 raised below.</p> <p>In order to understand how any ventilation system works, as triggered by the fire alarm, or the override switches, a full cause and effect to know how the system works is required. Action 18 raised below.</p> <p>Maintenance of the opening windows and tilting panels should be undertaken, they are considered as part of the fire precautions. Action 26 raised below.</p>	No.
<b>Firefighting / evacuation lifts</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. If action is needed record this in the action log.	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Give a brief description of the system.</p> <p>Identify location.</p> <p>Do you have a testing regime?</p> <p>Is correct signage in place?</p>	N/A.	N/A.	N/A.

MAINTENANCE OF MEASURES PROVIDED FOR PROTECTION OF FIREFIGHTERS			
Fire Hydrants and general access	COMMENTARY	EXISTING CONTROL MEASURES	FIRE RISK
	Record any findings within the building ensuring you identify potential fire hazards and risk areas within the premises	Record systems and procedures in place including training and information given. <u>If action is needed record this in the action log.</u>	Control/condition satisfactory? <b>Yes/No</b>
<p>Items to consider:</p> <p>Identify location.</p> <p>Is correct signage in place?</p> <p>Can fire tenders reach the hydrant and external envelope of the building – are there any restrictions?</p>	<p>There are four fire hydrants around the building located in the below locations. Signage is in place for all.</p> <p>Tankards close just beyond junction with Medical Ave.</p> <ul style="list-style-type: none"> <li>• O/s Parish Hall entrance, Old Park</li> <li>• O/s rear fire exit, Old Park</li> <li>• O/s 16 Old Park</li> </ul> <p>Fire hydrants are able to reach all locations.</p>	<p>Defects observed within the maintenance report of fire hydrants.</p> <p>Actions, raised below.</p>	No.

<b>F1 OTHER FIRE HAZARDS OR AREAS REQUIRING SPECIAL CONSIDERATION</b>			
<b>AREA</b>	<b>COMMENTARY</b>	<b>EXISTING CONTROL MEASURES</b>	<b>FIRE RISK</b>
		<p>Record systems and procedures in place for managing this area.</p> <p>If action is needed record this in the action log.</p>	<p>Control/condition satisfactory? <b>Yes/No</b></p>
All areas.	<p>The fire risk assessment does not consider the individual risks from an individual experiment, or the risks within from equipment etc, these must be assessed and managed. This aspect of fire safety should be considered, a room by room risk assessment and audit could be undertaken locally by the “room owner”, the auditor did not observe across the board, a formal structure, some areas, Glass Workshop for example evidence of risk assessment and management was obvious.</p> <p>Maps are available with hazardous symbols sited in the red box on site. This will allow the fire brigade to carry out a dynamic risk assessment in the event of an emergency.</p>	<p>Local management must demonstrate an appropriate fire safety assessment and management structure, and by audit or inspection be proved to be in place and effective. Action 7, 44 raised below.</p> <p>Maps are available with hazardous symbols sited in the red box on site, however they are considered to be incomplete.</p>  <p>Provide accurate appropriate hazard information in the red box/grab bag, this will allow the fire brigade to carry out a dynamic risk assessment in the event of an emergency. Action 6,45 raised below.</p>	No.



**G1****EVALUATION OF A FIRE OCCURRING AND POTENTIAL IMPACTS**

Accident – Potential due to wide range of equipment and chemicals (inc. flammable solvents) in use - well managed by competent technical staff - **Low risk.**

Deliberate/expected due to work: Risk assessment of all procedures completed prior to works - **Tolerable Risk.**

Deliberate/malicious –Estates Assistants sited on front desk/CCTV in relevant areas of building access control within areas of building - **Moderate Risk.**

**The overall fire risk level indicator for the building is considered to be moderate as calculated above.**

It is therefore essential that efforts are made to reduce the risk and risk reduction measures be implemented within a defined time period. The risk assessment guidance states that the risk assessment will be reviewed no later than 6 months from the date of the current assessment.

Given the activities within the building, the occupancy, and the previous fire history it is reasonably likely that minor incidences of fire will continue to occur in the future. It is therefore essential that existing control measures remain in place, are regularly reviewed for suitability and action taken to ensure compliance.



Fire spread affecting life safety is likely to be reasonably contained with existing active and passive fire systems in place, unless high hazard areas are involved, actions raised.


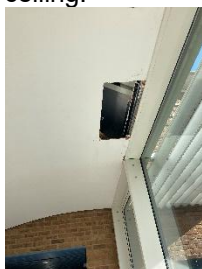

It is essential that these measures remain in place and that there is no degradation, or to reduce risk improvements implemented.


## FIRE RISK ASSESSMENT ACTION PLAN



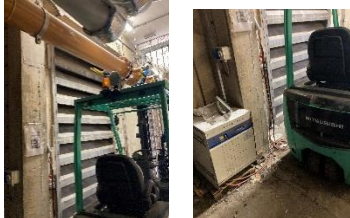
Where similar issues present (such as faults with multiple fire doors or breaches of compartmentalisation), these should be listed as one action but with all locations identified. Note that whilst individual issues may be low risk (e.g. simple fault with a single fire door), if accumulated (simple faults with multiple fire doors) it may be appropriate to raise the risk level. Equally, a low-level risk may escalate if left unattended from one review to the next.

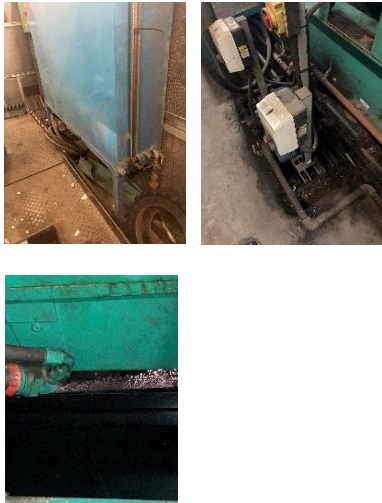
### NEW ACTIONS FROM THIS REPORT.


Issue	Risk Level	Issue description and location	Proposed solution	Person responsible	Job reference number	Expected completion (date)	Checked as complete (names & date)
1	M	<p>Fire stopping with foam observed throughout, it should be removed and replaced with suitable materials.</p>   <p>(Action from the previous report.)</p> <p>Other defects observed, a particular area of concern is above S401, upper plant area.</p>	<p>It is recommended the fire stopping/Compartmentation Survey is reviewed to confirm fire stopping works undertaken, and any further remedial works identified should be remedied using appropriate/approved methods of repair, suitable firestopping and materials, and where possible the removal of pink foam.</p> <p>Upper roof plant South Block above S401 is of particular concern, this should be fire stopped without delay.</p>	RM	<p>1379312</p> <p>8 May request for quotation sent to Aztech</p> <p>23//07/25 chased</p>		


2	T	<p>Synthetics building roof plant room intumescent paint repair required.</p> 	<p>Repair the intumescent paint with a like for like product.</p>	RM	<p>1364916 Reported on 10Apr</p> <p>23/07/25 chased</p>	30/07/2025	
3	T	<p>Top floor of synthetics defective ceiling.</p> 	<p>Top floor of synthetics, repair the ceiling to provide a protected route, reduction in fire spread to the roof void.</p>	RM	<p>Request send 10Apr 1375386</p> <p>23/07/25 chased</p>		
6	T	<p>Site plans showing key hazard areas with assist for emergency response. Some labs observed with location plans, gas cylinder locations and extinguisher positions etc.</p> 	<p>The provision of lab plans as good practice should be extended throughout.</p>	Sally Hobson			

7	M	Throughout the property, high risk lab areas were not seen, these should be inspected by the faculty health and safety team.	Areas that require a "lab Induction" should be inspected by the faculty health and safety team or others, and defects reported. A proforma to assist in this process may be required.	Sally Hobson			
8	M	DSEAR risk assessments are under review. This should continue to provide details on site with the classification signed at each location. 	Upon conclusion of the DSEAR assessment review, provide details on site with the classification signed at each location.	Sally Hobson			
9	S	The solvent store is clearly a high-risk area and appears well managed, however, during the visit, work was in progress and the fire doors remained open. For the purposes of property protection, it may be appropriate to fit automatic fire shutters or upgrade the fire doors to steel 1hr fire doors at the two entrance and fire exit doors.	Fit automatic fire shutters or upgrade the fire doors to steel 1hr fire doors at the two entrance and fire exit doors. Management procedures to be in place to ensure the room remains free of ignition sources, (Mobile phones – as an example) and fire doors provide immediate fire compartment protection.	Dean Finch  Sally Hobson			


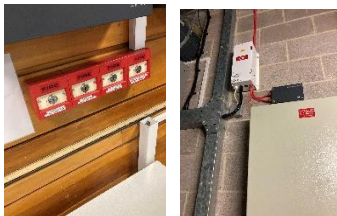
							
10	S	<p>Storage of flammable materials are restricted to 50L per workplace; however an initial observation was that this is easily breached, and a formal regular audit should be undertaken.</p> 	<p>A formal audit of quantities of flammable materials on site should be undertaken to ensure that the 50L per workplace limit is not breached.</p>	Sally Hobson			
12	M	<p>The location of the forklift charging is considered to be inappropriate, and it should be relocated.</p> 	<p>Relocate the forklift charging area.</p>	Brett Watson			
13	M	<p>The CHP generator function is not known, and it is not known if this is emergency backup power supply for safety. Evidence of maintenance is required if this is used for life safety.</p>	<p>The CHP generator function to be confirmed, evidence of maintenance is required if this is used for life safety. If it is considered redundant it should</p>	James Daley			


		<p>If it is considered redundant, it should be drained of fuel and made safe.</p> 	<p>be drained of fuel and made safe.</p>				
--	--	---	--	--	--	--	--

14	M	<p>Synthetics building plant areas between the labs is used for storage, all should be cleared and secured.</p> <p>All plant room housekeeping needs to be improved.</p>  <p>One of 39 photos taken on the site visit days. (Action from the previous report.)</p>	<p>Clear plant areas of all stored items, they should not be considered to be a convenient storage location. The stored items add fuel to a fire and in an unoccupied area, no first firefighting measures are available, the fire will establish and damage the property. Secure all plant areas to permit authorised access only. Lock change may be required.</p>				
----	---	---	--	--	--	--	--

15	T	<p>Basement level West Block plant room compressor oil storage is poor. Improve the storage facilities.</p> 	<p>Provide bunded secure enclosed flammable oil storage at this location.</p>	Paul Lawrence			
----	---	---	---	---------------	--	--	--



17	M	<p>West block ground floor fan room off the corridor; potentially detector removed. W220.</p> 	<p>Provide a suitable automatic fire detector in this fan room area W220.</p>	RM	1380526		
18	M	<p>Plant interfaces were observed to the fire alarm system, but a full cause and effect was not available, confirm the extent of testing of these systems.</p> 	<p>Undertake full cause and effect testing to the fire alarm outputs and all associated interfaces. Confirm operation of all annually.</p>	Steve Bush			

19	M	<p>It is recommended a retrospective fire strategy is created by a competent/qualified Fire Engineer to better understand the building as a whole and how each block interacts. The building may have limitations with regards to compartmentation, travel distances, means of escape, dead-ends, inner rooms among other issues. These will be identified and solutions offered on how they should be corrected. It is recommended that scaled drawings are reviewed and updated as necessary. Prior to undertaking this task, the standard to which the building strategy is to be written under should be decided, using BS9999 may give a more appropriate general approach to this mixed age building.</p>	<p>Using an appropriate standard, commission a retrospective fire strategy.</p> <p>It is recommended that scaled drawings are reviewed and updated.</p>	Dean Finch			
20	T	<p>Roof fire escape routes to be included in the means of escape checks.</p> <p>Roof areas that are used as a fire exit route to be slip free and weeds removed.</p> 	<p>Roof areas that are used as a fire exit route to be slip free and weeds should be removed.</p> <p>Replace defective South Block fire exit doors and fit with appropriate door furniture.</p> <p>Provide suitable fire exit direction signs.</p> <p>Continue to inspect for defects.</p>	<p>Richard Fluster</p> <p>RM (Aztech)</p>	1383675		



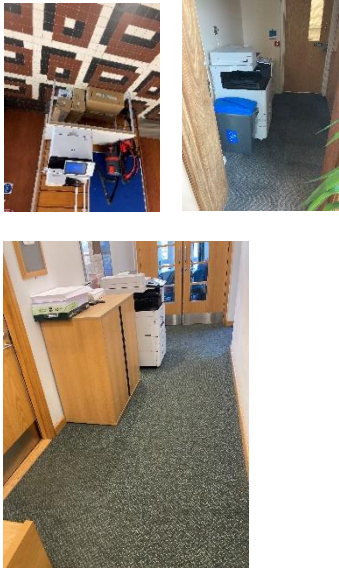

South block route is in part compromised by roof work, limited occupancy.



South block uses the roof terrace as a bypass fire exit route, E610, out and then back in near the stairwell. Doors are in need of replacement and appropriate assess and egress door furniture to be provided.





Suitable fire exit direction signs required.




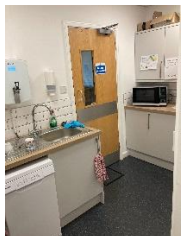




21	M	<p>Corridors are used as locations for printers and storage as a means of escape this potentially obstructs the route, and the routes should be cleared of items.</p>  <p>(Action from the previous report.)</p>	<p>The production of a retrospective fire strategy will inform all of the designated fire exit routes. These will then be required to be kept sterile. Photocopier and other ignition sources will need to be relocated, identify suitable alternative locations/ enclosures in the interim. The corridor clear width should be the same as the exit door width in order to retain the exit capacity. The site will have to put in place suitable ongoing management procedures to clear any items from escape routes.</p>	Charlotte Edom-Hodge			
22	T	<p>Insufficient fire exit directional signs at the far end of synthetics basement plant room.</p> 	<p>Provide additional fire exit directional signs at the far end of synthetics basement plant room.</p>	Sylwester Rzeminski			



23	M	<p>West Block level 4 fire exit route obstructed by fridges. Also have concerns about the travel distances in the labs to a place of comparative safety to be checked.</p> 	<p>Relocate the fridges. They provide an ignition source in locations that should be sterile so that they can be used as a means of escape.</p>				
24	M	<p>West Block, the fire exit route at level 2 passes through a locked office. A W233 fail safe security system should be provided here and mark the door into the lobby with fire exit keep clear sign.</p> 	<p>Provide an electronic security system here, with fail safe/ green break glass point to permit egress.</p> <p>Mark the lecture theatre lobby door as "Fire exit keep clear".</p>	Security Systems			
25	M	<p>Observations on site identify absent and confusing directional and other information/instructional signs. Stantec audit recommends an update of all signage.</p>	<p>It is recommended that a full review of directional and other information/instructional signage is undertaken and brought up to date and in line with BS EN ISO 7001:2023.</p>		As per Stantec report, to fulfil the action and compartmentation survey must be		



					HAS-FT-005 Version:5.0 Page 63 of 76 undertaken first. 27/05/2025 requested advise from Dean		
--	--	--	--	--	---	--	--


26	M	<p>In the stairwell, a window opener observed – it is not known if this is a smoke ventilation device, confirm and maintain. Ceiling void hatches observed, it is not known if these are smoke ventilation devices, confirm and maintain. Some observed to be open. Top hung panel observed in the WC corridor, it is not known if this is a smoke clearance device, confirm and maintain.</p>  	<p>The provision and operation of smoke control systems should be confirmed, the fire strategy will seek to detail these smoke ventilation systems, they will require testing and maintenance. The compliance team has no record of these on their system so this will need to be added.</p>	Leighton Rawlinson			
27	T	<p>West Block fire staircase is secured, the balance between security and a person being trapped in the stairwell should be considered. Fail safe security systems may be more appropriate.</p>	<p>Fail safe security systems to be provided to the West Block fire staircase. This will permit occupants of the stairwell – for example engineers in the roof plant room, to access and exit the stairwell as necessary rather than holding open the fire door with a strap.</p>	Tony Blundal			

		 					
28	M	<p>Room S209, fire door removed that protects a single means of escape, the door protects the route from a Kitchenette that has no detector, and the door to the adjacent communal area is on a hold open device and was wedged open.</p>    	<p>Fit automatic detection to room S207, detection is required to both sides of a door that is on a hold open device, refit the fire door between the kitchenette and the South Block fire corridor.</p>	<p>Two jobs; both reported to RM on 12 May.</p> <p>Chemistry Building, S207 - Fit automatic detection to room S207, detection is required to both sides of a door that is on a hold open device.</p>			

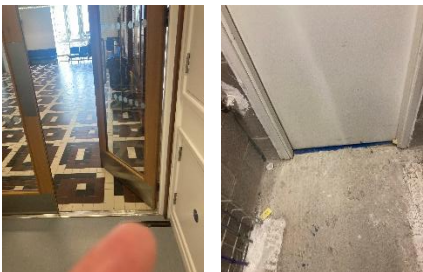
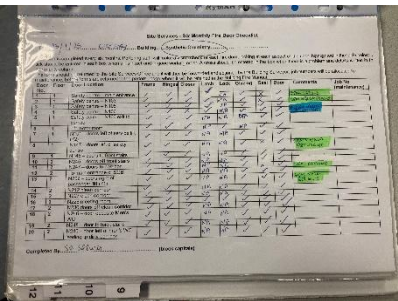


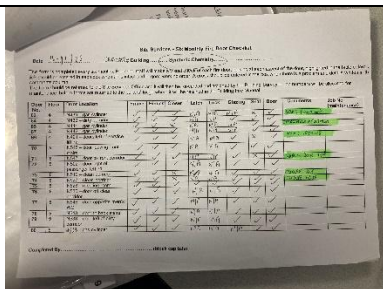
29	M	<p>South block alternative fire exit route is considered to be unacceptable. The alternative routes signed are not a safe route, they pass through labs, E001, cleaning cupboards and corridors with no automatic detection.</p> 	<p>The “alternative” fire exit routes in the South Block should be deleted, and the floors reconfigured to deliver a reduced travel distance, or other control measure to deliver a safe means of escape. This should be considered in the retrospective fire strategy.</p>	SFM			
30	M	<p>Fire dampers observed throughout 07/01/2025 test date. Any defects to be repaired. Fire damper test report dated 08/01/2025, 20 failed, repair as per report.</p> 	<p>Fire dampers to be repaired as per 07/01/2025 report.</p>	Steve Bush			
33	T	<p>PAT test Calbarrie 21/11/2024. 10 failed items confirm removed from site. 28/10/2024, 18 fails. Sample of room S209 indicated that last test was 2023.</p>	<p>Confirm removal of defective portable appliances from site. Ensure all portable appliances are tested according to the appropriate test regime.</p>	Sally Hobson			
34	T	<p>Zetasafe gas manifold inspection regime, 19/09/20204 fail reports, confirm remedial works complete.</p>	<p>To the gas manifold systems, confirm remedial works are complete.</p>	Paul Nicolau			

							
35	M	<p>AMP Electrical LTD lightning protection test record 29/05/2024, states a fail. Confirm remedial works are complete, and retest system once roof works are complete.</p>	<p>Lightning protection defects reported, confirm remedial works complete, and retest system once roof works are complete.</p>	Leighton Rawlinson			
36	T	<p>West Block roof plant area observed to have dead end spaces, accessed by vertical ladders and alternative ladder access fire exit routes, in addition to insufficient fire exit direction signs.</p> 	<p>Provide additional fire exit direction signs to the West block fire exit routes. The route to the vertical ladder should be easily followed.</p> <p>The upper plant area, accessed by vertical ladder should be considered to be an area where permit to access and no lone working is applied. A ladder lock-off plate should limit access to those with authorised/permit access.</p>	SFM			

38	M	<p>West Block fan units had large dust deposits. These can be ignited by static from the belts they should be cleaned and anti-static dressing applied.</p> 	West Block fan units to be cleaned and anti-static dressing applied.	RM			
39	T	No designated smoking area. Observations were that occupants smoke where they chose to in external areas.	A designated smoking area should be provided and maintained.	SFM/ School Manager			
40	M	Lithium Ion use is endemic – from such items as vapes, portable devices etc, the provision of fire-proof area or charging box and separated by compartmentation from storage areas is perhaps not possible in a lab context.	<p>From a university-wide perspective, consider undertaking communication that seeks to inform all as to the hazards associated with Lithium Ion, how to identify defects, emergency procedures, and the importance of correct disposal.</p> <p>Ensure sufficient first responders can attend to an ignition event.</p> <p>Control the disposal of waste batteries.</p> <p>Ensure through emergency planning that it is possible to</p>	SFM			

			isolate and secure defective batteries in a designated "Sin Bin" and if ignition occurs, they are in a safe location accessible to the fire service. All university equipment that uses Lithium Iron should be used and maintained according to manufacturer's recommendations.				
41	M	<p>The security of the building is balanced against free access to carry out research, this does increase the fire risk to the premises. The auditor understands that procedures are in place and Postgraduates have free access.</p> <p>However, the non-compliance with procedures and the absence of some restrictions lead to an arson risk and a risk of lone working.</p>	<p>There is reported evidence that Undergraduates are gaining access and when they cannot exit via card, the emergency override is used. It is quite common for students to leave the building using the green box to open the door. This leaves the door unsecured, increasing the risk of unauthorised access and an increase of the risk of arson in the building. The lone working consequences of this access are potentially exacerbated. Review the access provisions in the building, it may be possible to identify who and where access out of hours, and secure areas where access is not permitted. The functional outcome of this action is for the arson risk and lone working risk to be reduced by permitting only those authorised to enter the building and securing areas where those persons are not permitted.</p>	School Manager			

42	M	<p>Routine 6 monthly check of fire doors by Estates Assistants and repairs scheduled as necessary.</p> <p>Reported that there are a number of outstanding door defects to be actioned.</p> <p>Remedial actions on numerous Fire Doors in Chemistry, identified in Jan 2023 by Estates. Repairs remain outstanding and have been chased by FM.</p> <p>Defects observed during the visit.</p>  <p>Defects observed to doors, not closing and large bottom gaps.</p> 	<p>Confirm completion of the previously notified fire door defects.</p> <p>Continue to inspect and maintain all fire doors.</p>	SEA			
----	---	--	---	-----	--	--	--

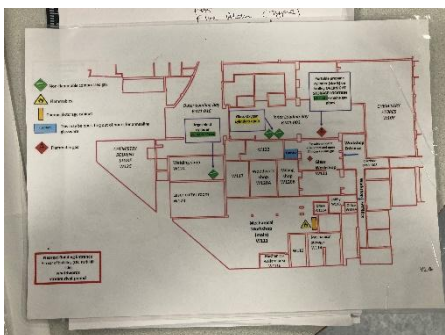



Sample of records of Estate Assistant door checks.




43	M	<p>Since the Covid 19 pandemic, fewer Fire Wardens are now on-site due to the introduction of Blended Working by the UoB. The Fire Safety Office has since instilled a message to all UoB staff advising everybody to take responsibility as a Fire Warden role in an evacuation. Fire drills have proven that sometimes there are not enough fire wardens to man fire doors, the overall numbers should be increased. Out of hours there are no wardens on site. A fire warden should be able to, having heard the fire alarm, cease work shut down any process safely, and start to evacuate. They should, en route to the means of escape, carry out their sweep, close doors etc as detailed in their duties and training. This process should not significantly delay their evacuation.</p>	<p>Fire drills have proven that sometimes there are not enough fire wardens to man final fire doors, the overall numbers should be increased to deliver this task seek to have at least 12 in place at all times.</p> <p>At a rough estimate using the sweep as you leave criteria, the Chemistry building probably need 35 or so persons to assist with clearing the building. The person assisting with this evacuation may not be a designated fire warden, but they will have a role to play in clearing the building. In order to accurately report to the attending fire service that the building is clear a coherent plan needs to be in place. Each sweep route should be mapped out and walked by the "Fire evacuation officer". A QR code or similar</p>	Sally Hobson		


			<p>tag can be carried and quickly scanned/placed on a board/ some form of record made, to show that the area is clear. In addition, appropriate communication between the fire wardens is required to accommodate the recording of clear areas, radios or other communication is advised. Out of hours, with action 41 implemented, a register should be available for those who have been authorised to enter the building.</p>				
44	M	<p>This report has limitations as to the areas seen. The way that an individual lab is managed from a fire safety perspective, must also be considered. The fire risk assessment does not consider the individual risks from an individual experiment, or the risks within from equipment etc. These must be assessed and managed. This aspect of fire safety should be considered via a room by room risk assessment, the production of a lab hazard plan shows that in part this is done, and an audit could be undertaken locally by the "room owner". The auditor did not observe across the board, a formal structure, some areas, Glass Workshop for example; evidence of risk assessment and management was obvious. Local management must demonstrate an appropriate fire safety assessment and management structure, and by audit or inspection</p>	<p>The auditor did not observe across the board, a formal structure of fire safety management, some areas, Glass Workshop for example evidence of risk assessment and management was obvious. Local management must demonstrate an appropriate fire safety assessment and management structure, and by audit or inspection be proved to be in place and effective. The auditor advises a room by room risk assessment and audit pro forma, that informs a wider audience of the fire safety management in place with a residual risk score as the delivered outcome.</p>	Sally Hobson			



		be proved to be in place and effective.					
45	M	<p>The solvent store is clearly a high-risk area, and a separate action is raised to reduce the risk here. However, the significance of a fire in the solvent store appears to be given too low a priority.</p>  <p>The document shown does not mention the solvent store.</p> <p>The consequences of a fire here will have a significant impact on the adjacent areas.</p>  <p>Note the gas pipes and vents.</p>	<p>An appropriate emergency plan should be written for the Solvent store area. Consider the calorific value of the typically stored contents and then consider the consequences of this fuel load on the building. The fire is likely to be rapid and quickly escape the room, via the ventilation provision. This will probably impact the adjacent properties.</p> <p>The situation as it is may be unacceptable, and risk reduction may be required in the form of fire suppression systems, reduction in quantities stored, or storage elsewhere.</p> <p>Guidance available. <i>Storage of flammable liquids in containers HSG51.</i></p>	Sally Hobson			



		Some additional emergency planning is advised.					
46	M	<p>Fire doors observed to be wedged open throughout the property.</p>   	<p>The recommended fire strategy will inform occupants as to the location of protected fire exit routes. The requirement to keep the fire exit doors closed on these routes to be enforced by the university.</p> <p>Estate Assistance to undertake daily tours to confirm all fire doors are closed.</p>	SFM			

47	M	<p>Fire exit route issues within the stairwells observed – items stored within stairwell, Synthetics, final exit.</p> 	<p>The delivery notes on these items indicated that storage had been in place for a significant period. This demonstrates that the fire safety culture on site is deficient.</p> <p>All occupants should understand the consequences of poor fire safety management and seek to deliver the highest fire safety standard possible. Additional training and communication should be delivered to achieve this aim.</p>	Sally Hobson				
----	---	---	---	--------------	--	--	--	--