Health and Safety Department

Fire Alarm Systems Safe Working
### Document Details

<table>
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<tr>
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<td>Rod Harrison</td>
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### Document Revision History

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1. Scope

1.1 General

This document sets out the procedure for the management and control of University Fire Alarm systems.

The document is intended to ensure a good standard of safety is maintained and compliance with current legislation and good practice is achieved, in the management of fire alarm systems. The provision of effective written procedures is essential in delivering safe systems of work on fire alarm systems. This document makes recommendations for the allocation of duties to personnel and the way these duties should be performed.

Please see Appendix A for the Flow chart to ascertain if a Permit to Work (PTW) is required.

Not all works on University Fire Alarms systems require a permit to work, the flow chart in Appendix A outlines where one would be required. More detailed information is given below.

2. Work/activity (hot work, excessive steam/vapours etc.) that may activate the fire alarm system

Any activity which may cause the Fire Alarm system to activate and cause an unwanted fire alarm shall initially require a valid Safe System of Work (SSOW).

Where this identifies the need for the isolation of devices electronically or physically including the ‘capping off’ or isolation of detectors, or the isolation of a loop of the Fire Alarm systems then a PTW will be required.

The only exception for the need to apply a PTW is local restricted work. That is where the work required, only needs a maximum of approximately 1 to 4 devices isolated of which none are sited on any part of the means of escape and the work involved will not have any effect on the remainder of the fire alarm system or its assists. A completed fire alarm isolation request is all that is required (see Appendix B).

Note For a fire alarm isolation to take place appropriate notice MUST be given to enable work to be planned. One week’s notice is preferred but a minimum of 48 hours WORKING notice is required for isolations.

3. Permit to Work Process

1. The Project Manager (see Appendix D) must ensure the Principal Contractor or person in charge of the works are fully aware of the risks involved in working in occupied buildings.

Ensure the areas they are working in have been properly assessed, so there are no false alarms and activations, and work is only carried out in the areas that have Fire Alarms isolated.

If further isolations are required, it is the Project Managers responsibility to inform the Electrical Team Leader in that area and give sufficient notice.
2. The Project Manager or person in charge of the work other than in the case of local restricted work (defined above) shall provide:

- A brief of the scope of work

- Where necessary, an up to date building as fitted Fire Alarm system drawings. If these records are not readily available then a pre-work survey to identify the Fire Alarm system must be undertaken to understand its status.

- Fire Alarm system zone chart(s) these assist in identifying the impact the isolation may have on parts of the building.

- A current cause and effect of any ancillary equipment connected to the Fire Alarm system. If these records are not readily available then a pre-work survey to identify the cause and effect of any ancillary equipment connected to the Fire Alarm system must be undertaken to understand its status. E.g. there is a risk the isolation on Fire Alarm system could also disable ancillary equipment that may affect the operation of the building or the fire evacuation process.

- The preferred way to collect any missing data is to appoint the LU approved maintenance provider whose details are available from Facility Services.

- Where necessary discuss with the LU Fire Officer the planned isolations and agree a strategy for the work, this may include display notices, temporary alarms (klaxons) positioned by all Manual Call Points (MCPs) fire walkers, working outside the building's normal working hours etc.

- Once agreed the Project Manager (or person in charge of the work) shall then raise a Permit to Work (see Appendix C) for the task.

3. The completed permit documentation and additional supporting documents Risk Assessments / Method Statements (RAMS) shall be submitted to the LU Fire Safety Officer or Deputy Fire Safety Officer or in their absence submitted to the Health, Safety Risk Manager for approval. If approved the Permit to Work shall be authorised, if not approved the documents shall be returned to the Project Manager for amendment and re-submission.

4. The Project Manager (or person in charge of the work) shall be responsible for issuing the approved PTW to the person carrying out the work.

5. All isolations shall be carried out by the University Facility Services Electrical Team Leaders or their nominated deputies or by the Principal Contractor where agreed specific strategy has been approved by the LU Fire Safety Officer and Project Manager in advance.

*Note* a formal requisition is required for all isolations with the following information:

- The date or dates of Isolation
- The times the isolation is to take place
- The location of the Isolation (Building and Room number)
- Why the Isolation is required
- The Name and Contact details of the person requesting the isolation
- Drawing showing proposed isolation and associated cause and effect
6. Unless specifically agreed as detailed below all isolations will be re-instated daily.

Any isolation required outside the normal working hours 08:00 – 17:00. Monday to Thursday, 08:00 – 16:00 on Friday will require the following:

- A risk assessment and method statement (RAMS) attached to the isolation request and submitted as per a normal isolation. These must include the procedures for safe egress and communication of a fire situation to all other building users, and how contact will be made with Security/Fire Service.

- The University insurers will also need to be informed. This will be carried out by the Project Manager contacting LU Insurance Support who will in turn inform the current Insurers. The link to the Fire Impairment form for PMs to complete for Insurance Support is below:
  - [https://internal.lboro.ac.uk/info/fm/service/business/forms/](https://internal.lboro.ac.uk/info/fm/service/business/forms/)

- The people who will also be informed are as follows:
  - University Fire Officer
  - Director of Facilities Services
  - Building Services Engineer (Electrical)
  - Engineering Electrical Service Delivery Manager
  - Security
  - The person requesting the isolation
  - Client Lead

The covering of fire detection equipment will not be carried out unless prior notice and approval is given by the Engineering Electrical Service Delivery Manager or their nominee.

Where protective yellow bags are issued along with a permit:

- 48 normal working hour notice must be given as for a normal isolation.

- The bags should be removed at the end of each working day to ensure that the entire fire alarm system is in operation.

- The number of bags issued and returned should be controlled. This can be achieved by numbering and recording the bags as they are issued and returned. This ensures that no bags have been left on any detection equipment.

On completion of the work the Permit to Work shall be signed off by the person carrying out the work and returned to the Project Manager (or person in charge of the work.) The permit will then, once all work is complete and checked, be passed back to the permit authoriser to cancel the permit.

7. Reinstall the fire alarm system and either on a risk assessment or upon the advice from LU Fire Officer, fully test including the witnessing of all Cause and Effect (C&E) of ancillary equipment interfaced to the fire alarm system.
Arrange for the system to be reconnected to the University’s master Fire Alarm control station(s) prior to allowing University staff to occupy the building.

Modify and update any relevant record drawings

4. Work/activity on the fire alarm system

Occupied Buildings – System of work

Any activity which may compromise the integrity of a Fire Alarm system shall require a valid PTW. This will include any isolation of devices either electronically or physically including ‘capping off’

detectors, and any works associated with connection / disconnection of Fire Alarm systems or part of Fire Alarm systems.

The only exception for the need to not apply a PTW is local restricted work. That is where the work required is only affecting a small part of the fire alarm system for a minimal time (approximately 1 to 4 devices not exceeding 8 hours) that does not disable any ancillary equipment that forms part of the building fire strategy, and devices affected do not form any part of the building/areas means of escape. The work involved will not have any effect on the remainder of the fire alarm system and will not alter the current asset drawings / layouts. And a fire alarm isolation request is completed (see Appendix B).

In all other cases follow the PTW process steps 1 – 7 MUST be followed.

Unoccupied buildings - System of Work

This section deals with buildings that are fully handed over to the contractor. Agreement shall be reached between the Project Manager that the Principal Contractor:

Principal Contractor shall:

• Assume responsibility for fire management on the site and will comply with all associated legislation.
• Arrange (if agreed) for the existing system to be disconnected from the University’s master Fire Alarm control station(s).

Principal Contractor at hand back shall:

• Reinstate the Fire Alarm system and risk assessed based or upon the advice from LU Fire Officer fully test including the witnessing of all Cause and Effect (C&E) of ancillary equipment interfaced to the Fire Alarm system.

• Arrange for the system to be reconnected to the University’s master Fire Alarm control station(s).
• Arrange for the new system to be formally handed back to the Project Manager/Leader with all relevant documentation and certification, prior to allowing University staff to occupy the building.
The Project Manager shall:

Notify the LU Fire Safety Officer, LU Security, Facilities Services, Engineering Electrical Service Delivery Manager that the system is out of commission between (date/time – date/time) and that the Principal Contractor is responsible for the system whilst it is out of commission.
Appendix A - Flow chart to ascertain if a Permit to Work (PTW) is required

Type of Work Activity - Do you need a permit to work?

- **Works not affected Fire Alarms installation**
  - **No**
  - **PTW required SSOW and Fire Alarm Isolation required**
  - **Yes**
  - **Isolated devices are not on the means of escape and have no affect on the remaining system**
  - **PTW not required SSOW and Fire Alarm Isolation required**
    - Reinstall the system and check the panel is in the same state as prior to work commencing

- **Work/activity on the Fire Alarm system in either occupied an unoccupied building**
  - **Only affecting small parts of the building for a minimum time and does not disable any other ancillary equipment which forms part of the buildings fire strategy or any device on the means of escape**
    - **Yes**
      - PTW not required, SSOW and Fire Alarm Isolation required
      - Plans, Cause & Effect, Zone charts, Risk Assessments and SSOW
      - If not available these must be created by qualified and approved Fire Engineers
      - Management of change implemented
      - Reinstall system, risk asssed based on the advice of LU Fire Officer, full test carried out including ancillary equipment
    - **No**
      - PTW required, SSOW and Fire Alarm Isolation required
      - Plans, Cause and Effect, Zone Charts, Risk Assessments and SSOW required
      - Management of change implemented
      - Reinstall of systems, risk asssed based on the advice of LU Fire Officer, full test carried including ancillary equipment

- **Affecting a large part of the building including major refurbishment works for a long time and affects ancillary equipment, fire strategy and devices on the means of escape**
  - **Yes**
    - PTW required, SSOW and Fire Alarm Isolation required
## Appendix B – Fire Alarm Isolation Request form

<table>
<thead>
<tr>
<th>To: The Electricians / Electrical Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person Requesting the isolation</td>
</tr>
<tr>
<td>Works requisition number (if applicable)</td>
</tr>
<tr>
<td>Description of work to be carried out:</td>
</tr>
<tr>
<td>Location:</td>
</tr>
<tr>
<td>Date to be isolated:</td>
</tr>
<tr>
<td>Date to be re-instated:</td>
</tr>
</tbody>
</table>

### Isolation Information

<table>
<thead>
<tr>
<th>Outstation Numbers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loop Number:</td>
</tr>
<tr>
<td>Panel Number:</td>
</tr>
</tbody>
</table>

Is this isolation to be re-instated daily? **Yes**  **No** *(please delete as appropriate)*

<table>
<thead>
<tr>
<th>Isolated by:</th>
<th>Date:</th>
<th>Time:</th>
<th>Hours:</th>
</tr>
</thead>
</table>

*A copy of the completed form must be forward to the Health and Safety team for onward transmission to the University insurers where a significant portion of a system is isolated for more than one working day.*
**SECTION 1 – TO BE COMPLETED BY THE PERMIT REQUESTER (Project Manager)**

**Fire Alarm System: Permit to Work**

<table>
<thead>
<tr>
<th>Campus / Building</th>
<th>S Building</th>
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<tbody>
<tr>
<td>Reason for work requirement e.g.</td>
<td>Building Maintenance/alteration</td>
</tr>
<tr>
<td>1. Fire Alarm Maintenance</td>
<td></td>
</tr>
<tr>
<td>2. Building Maintenance/alteration</td>
<td></td>
</tr>
<tr>
<td>3. Occupant Processes / Activities</td>
<td></td>
</tr>
<tr>
<td>Degree of isolation / Partial / Complete</td>
<td>Partial</td>
</tr>
<tr>
<td>Extent of area affected</td>
<td>Lower ground floor see attached floor plan</td>
</tr>
<tr>
<td>Extent of personnel affected</td>
<td>Academic staff / students</td>
</tr>
<tr>
<td>Contractors</td>
<td></td>
</tr>
<tr>
<td>Equipment / zones to be isolated</td>
<td>MCPs, Smoke/Heat detectors, Vesda system (roof voids)</td>
</tr>
<tr>
<td>Contingency measures to be put in place</td>
<td>Air horns placed at all MCPs, detector heads bagged off, warning notices placed at relevant points</td>
</tr>
<tr>
<td>Fire alarm system to be re-instated overnight and the whole of the week end.</td>
<td></td>
</tr>
<tr>
<td>Date(s) isolation required</td>
<td>From:</td>
</tr>
<tr>
<td>Time(s) isolation required</td>
<td>From:</td>
</tr>
<tr>
<td>Isolation request form completed</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>Isolation request form serial number</td>
<td></td>
</tr>
</tbody>
</table>

Person Requesting the Permit: …………………………… Title: ………………………………………

a) Security notified and recorded in duty log (permit not valid unless confirmed) ☐ Yes ☐ No
b) FM Help Desk notified (if applicable) ☐ Yes ☐ No
c) Building Operation Manager notified (if applicable) ☐ Yes ☐ No
d) Risk Assessment has been carried out checked and is attached ☐ Yes ☐ No
e) Method statement has been produced checked and is attached ☐ Yes ☐ No
f) Additional emergency evacuation procedures are in place if required ☐ Yes ☐ No
g) Building occupants informed ☐ Yes ☐ No
h) Warning notice issued ☐ Yes ☐ No

Agreed locations of warning notices

1. Copy of permit positioned on fire alarm panel(s) ☐ Yes ☐ No
2. Dust caps issued state number …. ☐ Yes ☐ No
*caps shall only be fitted where damage to the detector may be incurred through dust or other forms of contamination

**Permit extended**

| Date(s) isolation required | From: | To: |
| Time(s) isolation required | From: | To: |
| Authorising Person…………………………………………Title………………………………………|

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**SECTION 2 – TO BE COMPLETED BY THE PERMIT HOLDER (THE PERSON CARRYING OUT THE WORK)**

I understand and will ensure compliance with the Risk Assessment and Method Statement.

Signature: …………………………………………… Date: ……………………………………………
AUTHORISATION BY HEALTH AND SAFETY SERVICES

I believe the isolation of the Fire Alarm System is necessary and that the operation can be completed safely in accordance with the details above.

Authorised Person Name: ................................. Title .........................................
Signature: ................................................................. Date: .................................

SECTION 3 – TO BE COMPLETED BY THE PERSON RESPONSIBLE FOR ISOLATING THE FIRE ALARM SYSTEM OR DEVICES (THE ELECTRICAL TEAM LEADRE)

I understand and will ensure compliance with the Risk Assessment and Method Statement.

Signature: ................................................................. Date: .................................

SECTION 4 - TO BE SIGNED ON COMPLETION OR AT END OF PERMIT PERIOD BY PERSON CARRYING OUT WORK

a) Security notified and recorded in duty log (permit remains open unless confirmed) ☐ Yes ☐ No
b) FM Help Desk notified (if applicable) ☐ Yes ☐ No
c) Building Operation Manager notified (if applicable) ☐ Yes ☐ No
d) Work area has been checked for residual smoke, dust or vapour ☐ Yes ☐ No
e) All caps have been removed from detectors state number returned ☐ Yes ☐ No
f) Fire alarm system reinstated. All faults cleared. System tested and back to normal ☐ Yes ☐ No
g) All relevant personal informed (see section one) ☐ Yes ☐ No
h) Warning notice removed and returned ☐ Yes ☐ No
i) Copy of permit positioned on fire alarm panel(s) returned ☐ Yes ☐ No

NOTE ANY CHANGES TO THE FIRE ALARM SYSTEM HARDWARE / OR SOFTWARE MUST BE CHANGE CONTROL APPROVED BY THE FM BUILDING SERVICES ENGINEER OR APPOINTED NOMINEE.

PERMIT CANCELLATION

SECTION 5 – TO BE COMPLETED BY THE PERSON CARRYING OUT THE WORK

The permitted work on the Fire Alarm System has been completed and the system is returned to full operational condition.

By signing the authorisation and acceptance below, you are agreeing that should a fire fail to be detected due to a cover not being removed and returned to full use, that you will be held liable for any loss, injury or damage sustained as a result.

Signature: ................................................................. Date: .................................

Additional comments

Copy to person requesting permit
Copy to University Health & Safety Services
Appendix D - Definitions of a Project Manager, for the purpose of this document

a. Any technically qualified and competent staff employed by LU within Facilities Development and Facility Services, that have sufficient knowledge and experience to lead and deliver the Fire Alarm element of the project.

b. An Engineering Section Supervisor or, in their absence, the Assistant Supervisor who is capable and competent to carry out the duties.

c. A Project Manager