Access Security & Accessible Door Opening Systems - what you need to know:

**Mandatory**

Access and security controlled locking systems on doors or automatic sliding doors that form part of the Means of Escape (MoE) with opening ironmongery that does not have a mechanical override in the direction of escape, but relies on the release of Electro-magnetic lock or ‘keep’ by a ‘code / push button / reader’ device shall fail open/unlocked.

Electronically controlled security barriers and turnstile systems or installations provided on escape routes must have emergency disconnection arrangements that shall fail open/unlocked (i.e. barriers ‘drop out / unlock / release turnstiles free turn’).

Where electronically controlled locking systems are provided on escape routes without a simple mechanical override in the direction of escape, they shall fail open/unlocked (with the exception of specialist secure areas) and be provided with a manual emergency override break glass to release the door or barrier.

**Accessible door opening devices** - where doors are identified requiring automatic opening devices that electrically open and close doors with a time delay, then they shall not be fitted to stair enclosures or corridors forming protected fire routes without consultation with UCL Fire Safety.

**Prohibited**

Accessible Door Opening Devices on stairs forming part of the building’s escape routes - automatic door opening devices principally provided for Mobility Impaired Persons (MIP) to allow access through doors unaided, can, on activation of the fire alarm, remain open for longer than a normal self-closing device and continue to open with movement of occupants or other reasons. This action potentially allows smoke to enter the escape route and therefore their installation on certain doors, may need to be prohibited, restricted or have input from the fire alarm system. This is to de-activate to door opening motor in emergencies to protect the escape routes for other building users.

**Acceptable**

Security Considerations - security in certain circumstances (including safety of the public) is to take precedence and therefore a variation from the requirement to release the door from electromagnetic locking on activation of the fire alarm system may be acceptable. These variations should be subject to a suitable assessment to confirm the adequacy of arrangements for safe egress of occupants in the event of fire and in discussion with UCL Fire Safety Manager.

Consultation - before specifying or installing security systems or automatic opening devices for doors as ‘reasonable adjustment’, then UCL Fire Safety Manager should be consulted to ensure that basic fire safety standards are applied to meet the requirements of the Fire Safety Order 2005.

1.0. Introduction

This guidance note is provided for Design Engineers, Consultants, Project Managers, Contractors and UCL Staff to give general information on interfacing access security and accessible door release / opening systems with the fire alarm system, installed on doors and barriers used on the Means of Escape (MoE).

2.0. Normal Condition - Gallagher Access Control (Electromagnetic Locking Devices)

2.1. Where, electromagnetic locking devices are fitted to the routes forming part of the Means of Escape (MoE) in case of fire from the building, they shall fail open / unlocked.

2.2. Gallagher / Fire Alarm Interface - fire alarm signals must be brought back to UCL’s Security Control Room via the Gallagher system. This must include activation and fault. The fire alarm system interface module must be installed immediately adjacent to a Gallagher Controller, to minimise the reliance on non-fire rated cable. EOL resistors must be mounted inside the fire alarm interface module.

3.0. Operational / Secure Conditions - Security Door Interfaces Electromagnetic Release Access Control Devices

Note - in some cases doors for operational reasons may be permitted to remain secure on operation of the fire alarm - these locations will generally be specialised and used by a small number of trained and familiar staff using the facilities.

3.1. Operational or Bio-Safety Requirements - may include:

- Containment Laboratories (CL) and GMP facilities;
- Biological Service Areas;
- External exit doors where potential security breaches an issue.
3.2. **High Security Requirements** - where **Secure (SR) Security Doors (Stafford Bridge type)** are installed.

(a). Stafford Bridge security doors with the ‘Safe and Secure’ locking solution **must** have a local fire alarm interface used to cut the power to the ‘fail-locked’ locking mechanism, along with the local break glass; this then leaves the door secure, but with a **free exit handle** for easy escape in the event of fire;

(b). **Important for specifiers and fire alarm installers** - the fire alarm release must be direct-wired input to the security door via a separate IO interface for each security door;

(c). **Note** - usual fire alarm interfacing with the security system’s software configuration at a central location is **not acceptable** where specialist’ Stafford Bridge door fitted;

3.3. **Door Release / Unlock Requirements:**

(a). **on operation of the fire alarm system** - the locks shall release **open / unlocked** in all cases (with the exception of specialist, secure areas- see item 3.2 above):

(1). the fire alarm release may be a direct-wired input from the fire alarm system interface, or;

(2). via the fire alarm system interfacing with the Gallagher security system’s software configuration at a central location;

(b) **On the loss of electrical power** - doors will unlock on loss of power supplies or disconnection of any relevant cable. Some doors may be fitted with battery backup for increased security, but shall still fail open / unlocked.

4.0. **Break Glass Emergency Door Release Units**

Break glass door release units must be provided for all doors fitted with electronic locking that is not fitted with a mechanical physical override to open doors in an emergency such as a lever handle.

4.1. Green break glass release units are to be positioned adjacent to the door, barrier or turnstile in all cases in the direction of travel of escape:

- Security drop out turnstiles or barriers at all entrances, libraries, receptions etc.

- Sliding, revolving doors or security gates etc.

- each emergency break glass unit shall:
o be coloured green;
o position at a suitable height of between 1200 mm & 1400 mm (with the exception of dropout barriers at a height to suite);
o be in a prominent position suitable for escape i.e. adjacent to door;

4.2. **Emergency Release Provision** - it is important that the emergency release is a *‘double / triple pole’ type* and *‘in line’* so that both Pos & Neg imputes are broken by operation of green box thus escape cannot be prevented by:

- failure of the control system;
- earth or frame faults in the control circuit;
- failure of relays through doors sticking in the closed position;
- not re-locking the device until a reset of the fire panel and on replacement / reset of the glass in the break glass unit;

4.3. Under no circumstances is an electronic door release to be connected to a local fire alarm sounder circuit. In all cases, the recommendations indicated within BS 5839-1 and BS 7273-4 are to be observed.

4.4. **Doors with Battery Backup** - where a battery backup is proposed to maintain the security in the event of power failure then, an override facility (i.e. green ‘break glass’ call point) **must be installed** so that the power supply to the electronic door-locking device can be interrupted in all cases.

4.5. **Signage** - all break glass units associated with egress systems for emergency use shall be **GREEN** in colour.

4.6. Be clearly labelled, e.g. **‘BREAK GLASS TO OPEN DOOR IN EMERGENCY’** and be placed adjacent to green release box.

4.7. In addition, a specific sign is necessary with a minimum letter size of 20 mm lettering (white letters on a green background) indicating ‘Break Glass to Open Door’.

5.0. **Emergency Escape Lighting Requirement**

5.1. **Escape Lighting** - emergency escape lighting shall be provided within two metres (2m) of the emergency green break glass door or barrier device units (see UCL Fire Safety Technical Note TN020).
6.0. Mobility Impaired Persons (MIP) Accessible Auto Opening Door Devices - General Circulation and Escape Routes

Before specifying seek advice both, from the Security Access Systems Manager & UCL Fire Safety Team for suitability of what you are trying to achieve

6.1. Accessible door opening devices - the following should be considered:

- **Make it simple** - without over providing functionality trying to meet all requirements – remember general pedestrian traffic will be by far the largest use of these doors;
- **Making it simple** – ‘free swing’ for normal pedestrian traffic, but provide a powered opening to allow Mobility Impaired Persons (MIPs) or others who need to open doors automatically – thereby:
  - o reducing wear and tear on door motor systems;
  - o reduce complexity of what we are asking these doors to do – keep it simple;
  - o reducing time delay in opening to prevent pushing / pulling against the motor;
  - o review fire imputes to the doors (see below);
- **Consider something similar to** - Geze Powertum door opener;

6.2. Fire Alarm Impute to Door Function - specifiers and contractors installing automated self-opening door mechanisms on UCL doors shall were no free swing provided on door be installed and configured to respond in the following way on activation of the fire alarm:

- **Close on activation of fire alarm or interruption of mains power** - door motor drive will close and movement sensors, push buttons and connections to other systems deactivate on receiving a signal from the fire alarm; the door may then be pushed or pulled manually;
- **Opening sequence** - doors are to be wired so that on fire alarm input signal, they do not open or cycle through any opening sequence;
- **External opening doors** - on external opening doors that form part of the escape from the premises the door motor drive will close and movement sensors, push buttons and connections to other systems deactivated on receiving a signal from the fire alarm, the door may then be pushed or pulled manually – this will assist in the rapid movement of evacuees through the doors during an emergency evacuation without door movement sensors impeding movement;
• In most cases, MIPs will have had a Personal Emergency Evacuation Plan (PEEP) or a Generic Emergency Evacuation Plan (GEEP) and/or a Buddy or a Fire Evacuation Marshal (FEM) allocated to assist in their evacuation.

7.0. Residences - Accessible / Auto Opening Door Devices for Rooms & WC's

7.1. Where it is proposed to fit auto-opening doors to bedrooms, rooms or kitchens, is subject to discussions with students and other persons requiring assistance with these devices:

• The door-opening device operates by means of a suitable controller with open and close/locked unit on both sides of the door. It is to be positioned so that it can be easily operated by MIP users;

• Care that any Red or Green lights door controller are hidden particularly in bedrooms, so as not to distract occupants;

• That the doors are fitted with large ‘D’ type handles to allow ease of opening and closing of doors by all persons including MIPs;

• The door opening and controllers can be switched off and only activated when there is a need for their use; this will also assist with the maintenance of the mechanisms;

• The door-opening device can be switched off on room doors if the user of the room does not require the opening facility so the door reverts to manual opening, closing and locking arrangement;

• All connections to designated fire doors are interfaced so as door motor driver will close and movement sensors, push buttons and connections to other systems deactivated on receiving a signal from the fire alarm, the door may then be pushed or pulled manually;

• In all cases, there may be need for further ‘reasonable adjustment’ to assist providing specific need of the users;

• Automatic doors would normally operate on a key fob or proximity card and any deadlock arrangement will conflict with operation of the automatic operator. Where there is a requirement to lock doors with powered opening devices, this should be done using either electronic access control, or by installing a mechanical deadlock with a switched strike to defeat the operator when the door is locked. Powered openers must not be used on doors with mechanical latches. Specification will be provided by UCL Security Systems section;
7.2. **Considerations:**

- Ease of access for disabled users;
- Door operator to fail in “closed” position in the event of fire alarm activation (as fire may be in this room);
- Privacy and ability to lock door from within room;
- Security of room against unauthorised access;
- Lock over-ride for carer / emergency access;
- Key over-ride switch;

**Important Note** - we should provide as much assistance, help and reasonable adjustment as practicable for MIPs to access and use our facilities to the full. However, we must be mindful that these arrangements **DO NOT** compromise escape routes or place other occupants at risk through our desire to assist disabled persons. Sometimes, clear management and other practical changes need to be developed, over the use and reliance of technology...

8.0. **Further UCL Advice**

Further advice from:

**UCL Security Systems** and locking devices should be obtained from the UCL Security Systems Manager [Tel: 020 7679 7735 / Internal: 37735 or securitysystems@ucl.ac.uk].

**Fire Safety Team @ fire@ucl.ac.uk**