

Imperial College Union Policy Pyrotechnics Policy

Audience: All Staff
Owner(s): Leadership Group
Created Date: April 2021
Review Date: April 2024
Date Approved:
Approving body:

1. Policy statement

Imperial College Union is committed to ensuring the health, safety and welfare of its members, staff, customers, suppliers, visitors and all others who may be affected by its activities.

Imperial College Union recognises that good management of health, safety and welfare is essential to the success of the organisation and is a sign of a well-managed organisation.

Imperial College Union is committed to ensuring that procedures are in place to identify hazards, assess risk and set objectives to improve the management of health, safety and welfare.

Imperial College Union acknowledges its duty to ensure that all relevant legislation regarding health, safety and welfare is adhered to and that resources are made available to ensure health, safety and welfare.

Imperial College Union is committed to developing a positive safety culture, based on the involvement of staff and volunteers in health and safety management. Imperial College Union will therefore use consultative forums and mechanisms to involve staff and volunteers in health and safety management, and will endeavour to provide relevant training to all staff and students.

Imperial College Union commits to reviewing this policy at least every 2 years, or as and when necessary, with approval for the policy to take place at the Board of Trustees.

2. Introduction

Many shows and events can be enhanced through the use of pyrotechnics (sometimes called indoor fireworks), providing a “wow” factor at the right moment, or that powerful sound of gunshots during a stage drama. Pyrotechnic stage displays are primarily used to enhance a particular scene, song, or announcement, or to draw the audience’s attention to or from a part of the stage.

The Health and Safety Executive (HSE) states that there are limits to the amount of pyrotechnics that can be stored at one time without the requirement of a license. This table can be found [here](#). Storage of pyrotechnics should be kept in their original packaging due to their compliance with the United Nations standards.

Hazards caused by pyrotechnics:

- premature firing due to mobile phone or other types of electromagnetic transmitting equipment, eg radios;
- premature firing caused by extreme weather such as electrical storms;

- flash or radiated heat;
- high noise levels;
- blast effects – this effect can be worsened in water or in confined spaces;
- projectiles and other debris;
- unplanned spread of fire;
- release of toxic by-products;
- clearing of misfires;
- unstable equipment or substances caused by unsuitable transportation, storage and handling;
- flash-over from high-tension electrical lines caused by airborne ionised particles following the firing.

In the event of accidental or unauthorised firing, the following must be followed:

- Stage 1 – Ensure everyone (including yourself) has moved away (to a minimum of 5m)
- Stage 2 – Leave it alone
 - Pyrotechnics are self-sustaining and cannot be extinguished. Any attempts to extinguish a pyrotechnic puts a person close to it in significant danger
 - You may not know what the pyrotechnic will do next, for example it may explode
- Stage 3 – Let it burn out
 - Let the pyrotechnic burn to completion. Only then should you deal with it.
- Stage 4 – Dealing with the used pyrotechnic
 - Only now should you attempt to contain it
 - Be careful as the pyrotechnic is likely to still be hot and burning internally
 - Use suitable PPE to place the spent case into a bucket of water

Safely disposing of damaged or unused pyrotechnics should be done in line with the Guidance for the Safe Management of the Disposal of Explosives (CBI publication) which can be found [here](#).

Pyrotechnics Risk Assessment

Before any pyrotechnics are to be used or setup, a Risk Assessment should be carried out to ensure safe practice and use. The risk assessment should ensure the following is covered:

- risk management – ensuring risks are minimised, or removed entirely, where possible;
- communication – including a briefing to all staff/ students involved, and the process for communicating issues or problems arising during usage;
- materials – ensuring appropriate procurement, safe transportation and adherence to specific legislation on handling pyrotechnics;
- cueing – a detailed, clear and unambiguous system for cueing an effect, ensuring the pyrotechnician has clear line of sight to the pyrotechnics before firing;
- rehearsal and execution – how the pyrotechnics should be safely rehearsed and managed;
- emergency procedures;
- misfires;
- appropriate disposal of unused, damaged, or spent pyrotechnics;
- other control measures, as necessary.

3. Responsibilities

Board of Trustees

The Health and Safety at Work Act 1974 places a statutory duty on organisations to ensure, so far as is reasonably practicable, the safety, health and welfare of its employees at work

and other people who may be affected by their activities, e.g., membership, volunteers, members of the public.

The Board of Trustees, as the governing body of the Union, has overall and final responsibility for Health and Safety matters within the Union and for ensuring that Health and Safety legislation is complied with.

The Managing Director

The Managing Director has delegated responsibility for the implementation, monitoring and review of the Health and Safety Policy and associated policies. As required by the 'Management of Health and Safety at Work Regulations 1993' the Managing Director is named as the 'competent person' who will ensure compliance with Health and Safety. In particular the MD is responsible for:

- The setting of Health and Safety standards and objectives.
- The allocation of the necessary financial resources.
- Identifying and allocating Health and Safety responsibilities to Senior Managers / Departmental Heads.

Leadership Team Lead

The Managing Director will delegate to a membership of the leadership team the following responsibility:

- Ensuring general risk assessments are undertaken and made available to all employees.
- Monitoring and reviewing the effectiveness of Health and Safety activities and the Union's Health and Safety Policy and associated policies and procedures, and for ensuring that, at the strategic level, performance standards and timescales are adhered to.
- Ensuring accidents are investigated and reported to the Board of Trustees.
- Putting in place arrangements to monitor the maintenance of the premises and equipment.
- Chairing the Students' Union's Operational Health and Safety Committee and ensuring it has the time, facilities and resources to carry out its business effectively.
- Keeping under review this Health and Safety Policy and the Health and Safety performance of the Students' Union.

Line Managers

Health and Safety is a delegated line management responsibility requiring managers to undertake operational Health and Safety duties identified in this Policy and individual policies and procedures associated with Health and Safety. All Departmental Heads will be trained in relevant Health & Safety courses (i.e., Risk Assessment, COSHH) and where appropriate (IOSH, NEBOSH) to ensure areas/ teams are managed safely.

Line Managers are responsible for:

- Ensuring that departmental activities are conducted in accordance with Union policy, legislative, and other formal standards and that those hazards having the potential to cause harm are risk assessed and identified controls are implemented.
- Ensuring that employees receive sufficient information, training and supervision on Health and Safety matters.
- Producing safe systems of work and the means for complying with this Policy and other individual policies and procedures associated with Health and Safety.
- Where necessary, organising supervision to control the working environment and the maintenance of safe standards.
- Investigating accidents, or near misses, to establish causes and prevent recurrence.

- The Health and Safety induction of new staff, volunteers and students and ensuring that information, instruction and training are provided to meet individually identified needs.
- Identifying and monitoring the adequacy of the specific Health and Safety responsibilities of staff and students.
- Reviewing the above arrangements at regular intervals, making adjustments as necessary.

Individual Members of Staff, Volunteers, Students and Visitors

Individual members of staff, students and visitors have a legal duty to co-operate and comply at all times with the Health and Safety information, instruction and training provided. They must bring to the attention of their line manager or duty manager, without delay, any hazards identified, or improvements identified as necessary. If a hazard is seen, it should be removed or dealt with as soon as possible if it is safe to do so. It should also be reported using the Unions incident reporting system as a matter of priority.

Individual members of staff and students have a duty to take reasonable care for the Health and Safety of themselves and for other persons whom their actions or omissions may affect. Specifically, no person shall intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare. Serious breaches of the Health and Safety Policy (e.g., misusing equipment, deliberately putting someone else's safety in danger) will be dealt with through the Union's Disciplinary Procedure.

Health and Safety matters may also be raised by any employee at 1-2-1 meetings, team meetings and at Town Hall meetings, which occur regularly.

Operational Health and Safety Committee

The Operational Health and Safety Committee will meet at least once per term, although additional meetings may be called by the Managing Director, Officer Trustees, or the Board of Trustees should the need arise. Membership of the committee will be determined by the Managing Director.

The Committee will have the following terms of reference:

- To maintain and review the measures necessary to ensure the Health and Safety of Union employees, students and others engaged in legitimate activities on its premises.
- To set and review H&S performance and objectives to improve H&S management and maintain a positive H&S culture.
- To monitor the management processes employed within the Students' Union to mitigate risk, notably the implementation and annual review of risk assessments.
- To monitor and review H&S related incidents, implement investigations and complete corrective action (where appropriate and necessary) in a timely manner not to exceed 6 months.
- To monitor and review the H&S audit and inspection process, both internal and external, and implement recommendations where appropriate.
- To monitor and review the adequacy and implementation of H&S related training, awareness and competency standards.
- To enable complaints and reports from employees to be investigated, remedial action to be implemented, and response provided.
- To submit an annual report to the Board of Trustees summarizing the committee's output and effectiveness.

In addition to the Operational Health and Safety Committee, the Board of Trustees may from time to time determine the need for a sub group of the Board to take on specific governance

oversight of the Union's Health and Safety activity to ensure sufficient scrutiny and consideration is given to this area of work.

4. Definitions

Pyrotechnic(s) are articles containing explosive substances or an explosive mixture of substances designed to produce heat, light, sound, gas or smoke or a combination of such effects through self-sustained exothermic chemical reactions.

Pyrotechnic Substance means an explosive substance of a kind designed to produce an effect by heat, light, sound, gas or smoke, or a combination of any of these, as a result of non-detonative, self-sustaining, exothermic chemical reactions.

Competent Person is a person who has received suitable and sufficient training and experience in the safe setup and use of pyrotechnics.

5. Arrangements

All events or activities where pyrotechnics will be setup or used, should be accompanied by an appropriate risk assessment (as detailed above), and must be authorised by the Leadership Team Lead to ensure people involved are Competent Persons, and the usage and setup is in line with HSE guidance.

Where firing of pyrotechnics is likely to cause an external disturbance (i.e. causing smoke to appear outside of the building), the College Security team should be given appropriate notice beforehand to ensure safe handling if an issue is reported.

If the setup or usage of pyrotechnics is deemed to be unsafe by either a Competent Person, the Leadership Team Lead, or other trained professional (i.e. Security Team), then the use must cease immediately and shall only be allowed to resume if deemed appropriate again.

6. Review

The Policy Owner is responsible for conducting a comprehensive review of their policies at a minimum of every 3 years or as required to stay current with applicable laws and/or Imperial College Policies.

The purpose of the review is to determine:

- if the policy is still necessary and accurate;
- if the policy should be combined with another policy or if it should be rescinded;
- if the policy is up to date with current laws and regulations and Imperial College policies;
- if changes are required to improve the effectiveness or clarity of the policy.

7. Training

All setup or firing of pyrotechnics should be carried out by Competent Persons i.e. a member of staff or student who has received suitable and sufficient training.

The decision as to whether an individual is competent to undertake the setup and firing of pyrotechnics is left to the Leadership Team Lead. It is necessary to weigh up the job's skill content against the individual's attributes, taking into account their:

- theoretical training;
- relevant experience;

- understanding of the risks and hazards which could arise;
- understanding of the work being undertaken;
- the ability to recognise at any time whether it is safe to continue to work.

Both formal theoretical training and practical experience are normally necessary. The former can be arranged with a training provider.

8. Safety induction

Building safety inductions are needed for all persons entering College premises, so that they have access to basic safety information