

# ESTATES COMPLIANCE ARRANGEMENT (ECA)

## ECA 17 Hot Works Compliance



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LINCOLN

### 1. Policy link (Level 1 document)

This arrangement has been written in line with the relevant UoL Hot Works Policy and Guidance (if applicable) notes which can be found at [Health and Safety Department \(sharepoint.com\)](#)

### 2. Purpose

This document applies to all Estates Department and employed contractors carrying out works recognised as 'Hot Works' (HW) to ensure compliance with all relevant UK legislation.

The British Standards defines 'hot work' in BS 9999\* as "*any procedure that might involve or have the potential to generate sufficient heat, sparks or flame to cause a fire*".

HW, in the main, is associated with the application of heat either directly to, or adjacent to plant, tanks, vessels, pipes etc, that contain or have contained any explosive, flammable or toxic substance. However, for completeness, due to the fire risks intrinsic to any HW Activity, and the risk of personal injuries due to hot debris, toxic fumes etc, HW is as defined in the above paragraph.

### 3. General

Many aspects of maintenance and engineering work involve welding, burning, cutting, grinding, and working with bitumen boilers, etc. When these activities are carried out in direct contact or in close proximity to flammable or combustible substances there is the risk of explosion, fire, and the production of toxic substances, with the potential consequences of serious injury, ill-health and or damage to property and the environment. It is therefore necessary to have a control arrangement to reduce the risks associated with HW to an acceptable level.

HW is usually taken to apply to an operation that could include the application of heat or ignition sources to tanks, vessels, pipelines etc which may contain or have contained flammable vapour, or in areas where flammable atmospheres may be present. Wherever possible, HW must be avoided.

### 4. Procedure

Where HW is unavoidable and all other means of completing the work have been exhausted before then the following must be adhered to:

- Before any attempt is made to start HW, a formal Risk Assessment must be carried out and the results recorded to assess the possible consequences of the operation.
- HW is identified and managed using a PTW.
- When HW is performed, all hazards have been considered and there are Safe Systems of Work/Method Statements and emergency arrangements in place to reduce the risk of injury.
- There is no contact between sparks, flame or heat, and fuel sources.

#### Preparation

- Carry out a formal Risk Assessment and identify control measures that will reduce the risk of injury.
- The Risk Assessment must be conducted by a trained and competent individual, considering all reasonably practical predications to ensure the safety of works and others affected by their activities.

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- Where possible, consideration must be given as to whether the hot work is necessary and whether alternative options can be considered, e.g. the use of cold cutting or cold repair techniques or relocation of hot works to a less sensitive area.
- Application for a HW PTW must be planned and applied for in advance of the work, and supported by written Risk Assessments and Method Statements. The Authorising Roles (ARs) are required to review all associated documentation with regards to PTW applications, identifying necessary additional controls that may be required.
- HW should never be carried out in an area identified as a hazardous zone through a DSEAR Risk Assessment. Please speak to the UoL H&S Department if the area of proposed works is identified as a hazardous zone.

### Hot Works Permit

HW permits are applied to any type of work which involves actual or potential sources of ignition and which is done in an area where there may be a risk of fire or explosion, or which involves the emission of toxic fumes from the application of heat. They are normally used for any welding or flame cutting, for the use of any tools which may produce sparks, e.g. grinders, and for the use of any electrical equipment which is not intrinsically safe or of a suitably protected type.

### Permit generation

- Notification of an intention to carry out HW must be received prior to permit generation, in line with the Estates Department Permit to Work Arrangements ECA 05
- A Hot Works permit is only valid for one working day.
- In the event of an alteration to the RAMS or working conditions, there must be a cessation of the permit and a new permit raised to reflect the re-assessed/changed works.
- Work must not commence until all safety measures are in place and the permit has been issued by the University of Lincoln's AR and accepted by the Contractor/Employee undertaking works.
- Persons carrying out the work at height must adhere to the measures described in the permit and within their approved RAMS and SSOW.

### Permit closure

A designated 'fire watch' person must remain on site for the duration of the works and for one hour after works has completed.

- The fire watch period must be observed in its entirety prior to the work area being handed back to the PICOW for closure.
- The PICOW is responsible for the completion and closure of the permit and is required to attend the works area to confirm that there is no remaining risk from the HW.
- Completed, signed off permits will be saved within Planon and kept for a minimum of three years

### During works

- All work must be conducted in accordance with the Risk Assessments, Method Statements and PTW issued.

The following precautions should be taken prior to commencing works on site:

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- Before HW can commence, the area within ten metres of the work process must be cleared of combustible materials and flammable liquids. The distance may need to be in excess of ten metres in some circumstances, especially where overhead work is to be undertaken.
- All elements of combustible construction and surface finishes should be protected, as well as any openings, holes or gaps in walls, ceilings and floors, through which sparks could pass.
- Protection, except where mentioned otherwise, should be by the use of non-combustible or purpose-made blankets, curtains, or screens.
- Combustible floors in the designated area should be covered with overlapping sheets or non-combustible material or wetted and liberally covered with sand.
- Floors should be swept clean.
- Good ventilation should be provided in all areas where hot work is to be carried out.

### Completion

Upon completion of works, the area must be made safe, and a physical check of the work area must be conducted to ensure that an area is left safe following a hot working activity. The following actions/steps must be taken:

- The use of fire watches (monitoring an area for a defined period of time for signs of smouldering materials or the onset of fire).
- Fire Watch duration checks - one hour after the work is completed.
- Accelerated cooling or damping down of the area and equipment.
- All safety systems reinstated (smoke detector covers removed etc.)
- Area is cleared of equipment and debris.

The permit is then closed and returned to the Issuing AR. (Please see ECA 05 Permit to Work Arrangements)

### Considerations for Hot Works

#### Sources of ignition

Sources of heat most commonly involved with HW include:

- Gas/electric welding and cutting apparatus.
- Blow torches/blowlamps.
- Hot air 'guns' or blowers.
- Bitumen/tar boilers.
- Angle grinders, grinding wheels and cutting disks.
- Brazing and soldering.

#### Prevention of fire spread outside of work area

Prior to carrying out work on one side of a wall or partition, an examination should be made of the area on the other side to ensure that any combustible materials are not in danger or ignition by direct or conducted heat

#### Sandwich panels or composite construction

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Where HW is to be undertaken on composite building panels or similar constructions, the type of insulating or other materials behind metal or other non-combustible surfaces should be assessed. If combustible materials are identified or suspected, alternative methods should always be employed. If in doubt, it should always be assumed that panels have a combustible core. Cold stores, such as those found at Holbeach campus, may incorporate large amounts of combustible insulating materials in both wall and ceiling panels

### Roof and void work

An inspection should be carried out for voids above, below or around the work area, e.g. false ceilings, cable ducts or other cavities which may be able to transmit flame or smoke from one area to another. Particular care should be taken when working in or on timber frame structures, such as roofs and buildings where a timber frame form of construction may have been adopted. Caution must be taken in our heritage properties such as Riseholme Old Hall where voids may be encountered below panelling or window frames.

When working in areas which are deemed as Working at Height a WAH PTW must also be sought. Please refer to ECA 012 Working at Height Compliance for information on WAH and associated permits.

### Fire precautions

An appropriate type of fire extinguisher should be provided as stated in the Risk Assessment and Method Statement where the HW is to take place and made ready for immediate use in the event of an outbreak of fire.

Checks should be made to ensure the contractor is using portable extinguishers that are approved and certified by an independent, third party certification body.

One or more personnel directly involved with the HW (in particular the individual conducting the fire watch) should be trained in the use of fire extinguishers.

All personnel involved with the HW should be familiar with the method of raising the fire alarm, means of escape from the premises and summoning assistance in the event of an emergency.

### Automatic fire detection

When HW is being undertaken in premises fitted with an automatic fire detection system, only the local detectors or zone where the work is being carried out should be isolated in accordance with UoL procedures. The zone or detectors should be reinstated as soon as the task has been completed.

In premises with sprinkler protection, HW should not be carried out when the water supply to the sprinkler system is isolated. Adequate precaution should be taken to avoid accidental discharge

### Training and supervision

Operatives operating machinery must be competent to do so and familiar with any additional supervisory requirements associated to the works.

## **5. Estates Department points of contact**

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If you are unsure about HW or the requirements of supporting PTWs, contact an AR or the Estates Department Compliance Team for clarification or further guidance on these arrangements.

### 6. Associated documents

#### Internal

##### Level 2 Associated Documentation

Reference	Title
ECA 01	Fire Compliance
ECA 05	Permit to Work Compliance
ECA 06	Electrical Compliance
ECA 11	Confined Spaces Compliance
ECA 12	Working at Height Compliance
ECA 14	PUWER Compliance

##### Level 3 Documentation

Reference	Title
	N/A

#### External

Source	Title
Legislation	Control of Substances Hazardous to Health Regulations 2002
Legislation	Management of Health and Safety at Work Regulations 1999
Legislation	Manual Handling Operations Regulations 1999
Legislation	Electricity at Work Regulations 1989 (HSR25)
ACOP	Provision and Use of Work Equipment Regulations 1998
Legislation	Regulatory Reform (Fire Safety) Order 2005
Legislation	Dangerous Substances and Explosive Atmospheres Regulations (DSEAR 2002)

### 7. Change history

Version	Date	Summary of Changes Made
1	05/05/21	New Estates Compliance Arrangement for Permit to Work Created.
2	07/06/21	Internal Review Board
3	24/03/22	RW And SJ review
3.1	24/08/22	RW and SB review

### 8. Appendices

Appendix	Title
1	UOL Hot Works Permit Process Flow



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### APPENDIX 1

### Hot Works Permit Process Flow

#### Hot works permit process

