



High Voltage Electricity

Health and Safety Compliance Standard

Document Control

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1. Purpose

This compliance standard details the arrangements adopted by the University of Nottingham for the safe management of high voltage (HV) electrical installations, systems, and equipment within university premises

This compliance standard also details how the university will comply with its legislative requirements and industry standards.

2. Scope

Any arrangements implemented at a local level must meet all the requirements set out in this compliance standard.

This compliance standard does not supersede or negate the requirements of any Health and Safety legislation, rather it provides a consistent system to be followed when dealing with the activities of university staff and contractors working in properties and on land owned or operated by the university. The scope of this arrangement is to:

- Ensure a safe working environment is always maintained for staff, contractors, students, visitors, and tenants.
- Ensure works on high voltage electrical installations, systems and equipment are carried out and managed appropriately.
- Ensure there is a full and accurate record of high voltage electrical work undertaken on university premises.

The university recognises its responsibility for the safe and effective operation of high voltage electrical installations, systems and equipment taking all reasonably practical steps to ensure the safe installation, operations and maintenance of all high voltage electrical services and equipment.

3. Definitions

High Voltage - defined as all voltages above 1000V AC and 1500V DC.

Senior Designated Person - an individual appointed by the University (Health and Safety Committee) who has overall authority and responsibility for the high voltage electricity systems within the premises. This person should not be the Authorising Engineer (HV).

Designated Person - an individual appointed by the University Senior Designated Person who has overall authority and responsibility for the high voltage electricity systems within the remit of their role. This person should not be the Authorising Engineer (HV).

Authorising Engineer (HV) – an individual appointed in writing by a Designated Person to take responsibility for the effective management of the relevant safety arrangements (HV). The person appointed should possess the necessary degree of independence from local management to act within this arrangement.



Authorised Person (HV) - appointed in writing by the Senior Designated Person or the Designated Person on the recommendation of the Authorising Engineer (HV) in accordance with the relevant safety arrangements (HV). They are responsible for the implementation and operation of suitable and sufficient management arrangements regarding work on, or the testing of, defined high voltage electrical equipment.

Duty Authorised Person (HV) - an Authorised Person (HV) who has current responsibility for a system or installation as recorded in the site logbook, whose name is displayed in the mimic diagram and who personally holds or carries the Authorised Person's (HV) key.

Competent Person (HV) i.e. Maintenance staff, Faculty Staff, Contractors - approved and appointed in writing by the Authorised Person (HV) for defined work, possessing the necessary technical knowledge, skill and experience relevant to the nature of the work to be undertaken, who can prevent danger or, where appropriate, injury and who is able to accept a safety document from the Authorised Person (HV).

Accompanying Safety Person (HV) - a person not involved in the work or test who has received training in emergency first-aid for electric shock and who has adequate knowledge, experience and the ability to avoid danger, keep watch, prevent interruption, apply first aid and summon help. The person should be familiar with the system or installation being worked on or tested and is to have been instructed on the action to be taken to safely rescue a person in the event of an accident.

Safe Systems of Work - documentation that is required under current Health and Safety Legislation. Safe systems of work may include (but not limited to):

- Risk assessments
- Method statements
- Safe operating procedures (SOPs)
- Construction phase plans

By law these must be written documents which must identify all hazards associated with the work and identify measures to eliminate or control the risks arising from the work.

Permit-to-Work - documents designed to control high voltage electrical work as defined by the University of Nottingham.



4. Roles and Responsibilities

The Senior Designated Person will:

- Be the University Senior Designated Person for high voltage electrical safety
- Receive recommendations from the Authorising Engineer (HV) on appointing Authorised Person(s) (HV) and act upon them as necessary
- Seek assurance and ensure that management of high voltage electrical safety meets the requirements of this arrangement
- Seek assurance and ensure that high voltage electrical safety arrangements are produced for works on high voltage electrical installation, systems and equipment
- Seek assurance and ensure that high voltage electrical safety arrangements are implemented within the University of Nottingham which meets the requirements of this arrangement
- Seek assurance and ensure that an Authorised Engineer and Authorised Person(s) are appointed formally as per the requirements as set out in the University arrangement Safety Critical Roles
- Seek assurance and ensure that the Authorised Engineer and Authorised Person(s) have sufficient training, experience, knowledge, time and resources to enable them to meet all the provisions of this policy
- Seek assurance and ensure that an internal health and safety audit programme of the high voltage electrical safety arrangements are in place in accordance with this policy
- Ensure high voltage electrical safety reports are considered by the relevant Health and Safety Committee
- Seek assurance and ensure that following any significant non-conformity, incident or enforcement action that an appropriate investigation is undertaken, and any findings implemented
- Seek assurance and ensure that records are kept robustly as per this arrangement
- Lead by example e.g. undertake leadership walk rounds of jobs and installations involving high voltage electricity.

The Designated Person Will:

- Be the Designated Person for high voltage electrical safety within the Faculty of Engineering. They will be proposed for this role by the Faculty of Engineering Health and Safety Committee, and this must be approved by the Senior Designated Person.
- Receive recommendations from the Authorising Engineer (HV) on appointing Authorised Person(s) (HV) and act upon them as necessary
- Ensure that management of high voltage electrical safety meets the requirements of this arrangement
- Ensure that high voltage electrical safety arrangements are produced for works on high voltage electrical installation, systems and equipment falling under the control of the Faculty of Engineering
- Ensure that high voltage electrical safety arrangements are implemented within the Faculty of Engineering which meet the requirements this arrangement



- Ensure that an Authorised Engineer and Authorised Person(s) are appointed formally as per the requirements as set out in the University arrangements Safety Critical Roles
- Ensure that the Authorised Engineer and Authorised Person(s) have sufficient training, experience, knowledge, time and resources to enable them to meet all the provisions of this arrangement
- Ensure that an internal health and safety audit programme of the high voltage electrical safety arrangements are in place in accordance with this arrangement
- Ensure high voltage electrical safety reports are considered by the Faculty of Engineering Health and Safety Committee
- Lead by example e.g. undertake leadership walk rounds of jobs and installations involving high voltage electricity
- Ensure that following any significant non-conformity, incident or enforcement action that an appropriate investigation is undertaken, and any findings implemented
- Ensure records are kept robustly as per this arrangement.

The Authorising Engineer (HV) will:

- Ensure that high voltage electrical safety arrangements are implemented, administered and monitored within the University of Nottingham which meets the requirements of this arrangement
- Assess and recommend in writing suitable Authorised Person(s) (HV)
- Define the exact extent of the installation, systems and equipment for which each Authorised Person (HV) is responsible
- If necessary, recommend the suspension or cancellation of the appointment of an Authorised Person (HV)
- Maintain a register of Authorised Persons
- Issue appointment certificates to each Authorised Person (HV) for a period not exceeding 3 years
- Report to the Designated Person any deficiencies in numbers of suitably trained and experienced Authorised Person(s) (HV)
- Review Authorised Person(s) (HV) operational experience at intervals of not more than 3 years and recommending refresher training as necessary
- Audit the performance and record the operational experience of each Authorised Person (HV) every 12 months
- Undertake comprehensive audits not exceeding 3 years of the implementation of the High Voltage Electricity Policy and associated arrangements
- Notify the Designated Person of any known operational restriction issued by a distribution network operator or equipment manufacturer
- In collaboration with the Health and Safety Department investigate incidents of reported injuries and dangerous occurrences involving high voltage electrical installations, systems or equipment
- Provide information, support, and advice to Business Units on all matters concerning high voltage electrical safety.



The Authorised Person(s) (HV) will:

- Implement systems to ensure the management of high voltage electrical installations, systems and equipment meet the requirements as set out in this arrangement
- In collaboration with the Health and Safety Department, provide information, support and advice to Business Units on all matters concerning high voltage electrical safety
- Ensure that appropriate information is communicated to university staff, students and contractors in relation to high voltage electrical safety
- Manage performance of any contractor's competent persons, providing feedback at contract meetings and to the Director of Estates and Facilities and Authorised Engineer
- Ensure monitoring of the high voltage electrical installations and systems meets the requirements of this arrangement and legislation and reported upon
- Ensure that anyone undertaking works on university high voltage electrical installations, systems and equipment has sufficient training, experience, knowledge, time and resources to enable them to meet all the provisions of this arrangement
- Ensure that training records are kept in accordance with this arrangement
- Attend any mandatory training when requested
- Investigate any non-conformities to this arrangement in collaboration with the Authorising Engineer, providing reports to the Estates Health and Safety Committee.

The Duty Authorised Person(s) (HV) will:

- Be an Authorised Person who has accepted responsibility for a system or installation in the system logbook
- Be named and displayed on Mimic Diagrams
- Personally hold or carry the Authorised Person's Key (Note – this may be the Principal Contractor's Senior Authorised Person).

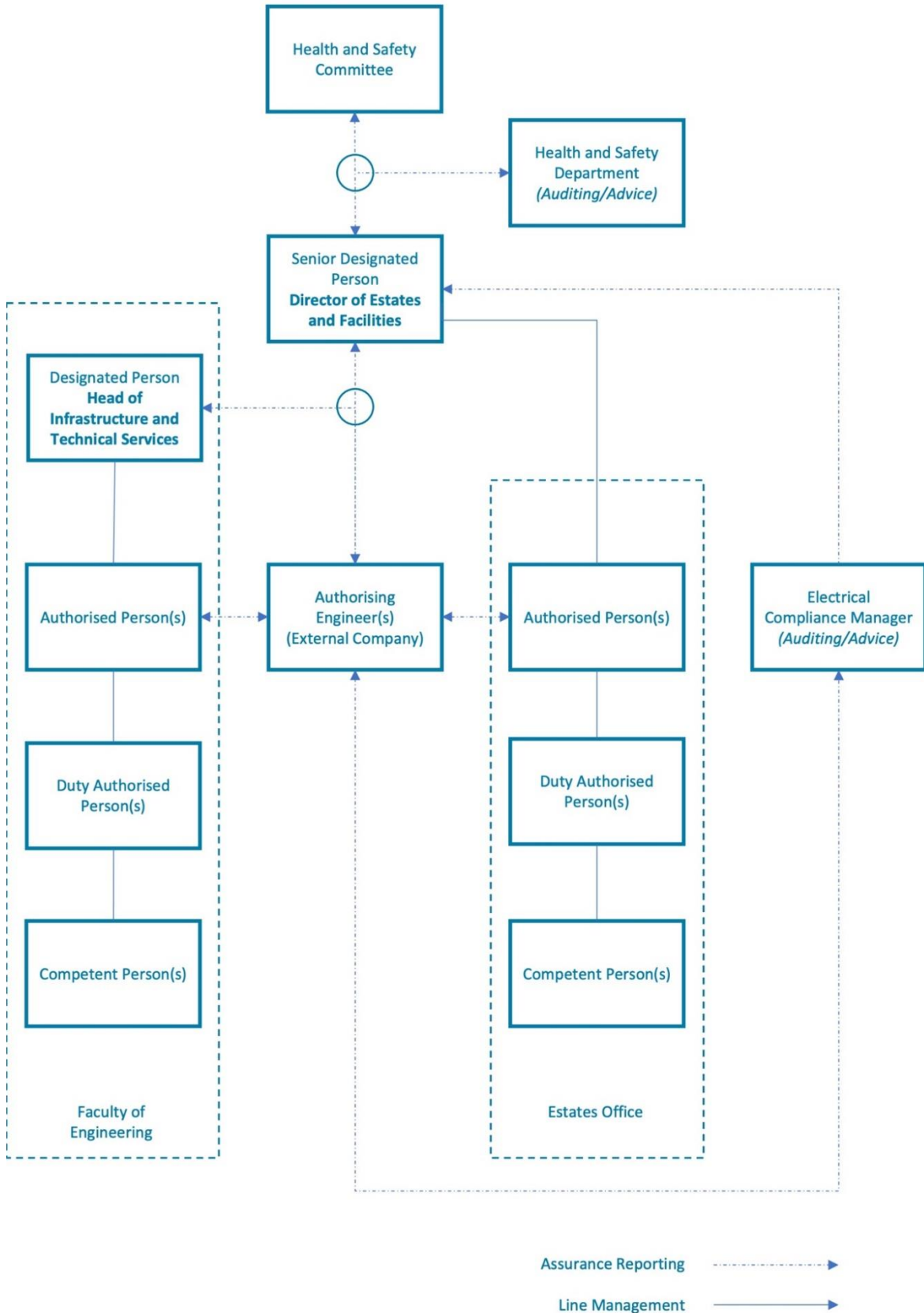
The Competent Person(s) (HV) will:

- Comply with University arrangement for high voltage electricity
- Follow safe systems of works on high voltage installations, systems or equipment
- Implement any management arrangement for works on high voltage installations, systems or equipment
- Not commence work on high voltage installations, systems or equipment without the correct permit-to-work and suitable and sufficient control measures in place
- Remain at the location of high voltage work or test until works are completed



The Electrical Compliance Manager (Estates) will:

- Ensure that all duties are met when performing the Authorised Person role as detailed in this arrangement
- Provide advice and support to the Senior Designated Person and Designated Person as required
- Provide oversight and assurance to the Senior Designated Person
- Ensure relevant audits take place for high voltage work, installations, systems or equipment and that these reports are sent to the Senior Designated Person





5. Training Requirements

The University will ensure that all relevant staff who have responsibilities for high voltage electrical work will receive the appropriate level of training detailed below.

| Role | Minimum Qualifications |
|-------------------------------|--|
| Authorised Person (HV) | <p>Must be issued an appointment certificate from the Senior Designated Person / Designated Person as appropriate. This is valid for 3 years.</p> <p>Completion of a “High Voltage (HV) Operational Safety” course. This must be refreshed every 3 years.</p> |

All contractors used for high voltage electrical work must be provided with relevant information on the University’s high voltage electrical permit arrangements where it applies to their work.

6. High Voltage Electrical Permits

All works involving high voltage electricity will be subject to permit-to-work.

The following permit-to-work arrangements must be in place for all works involving high voltage electricity.

| High Voltage Permits | | |
|-----------------------------|--|-------------------|
| Permit | Description | Issuing Officer |
| High voltage permit-to-work | Permit to manage works on high voltage installations, systems or equipment | Authorised Person |
| Sanction to test (HV) | Permit to allow tests on high voltage installations, systems or equipment | Authorised Person |
| Limitation of access (HV) | Permit to allow access for works within high voltage electrical areas but not on high voltage electrical equipment | Authorised Person |



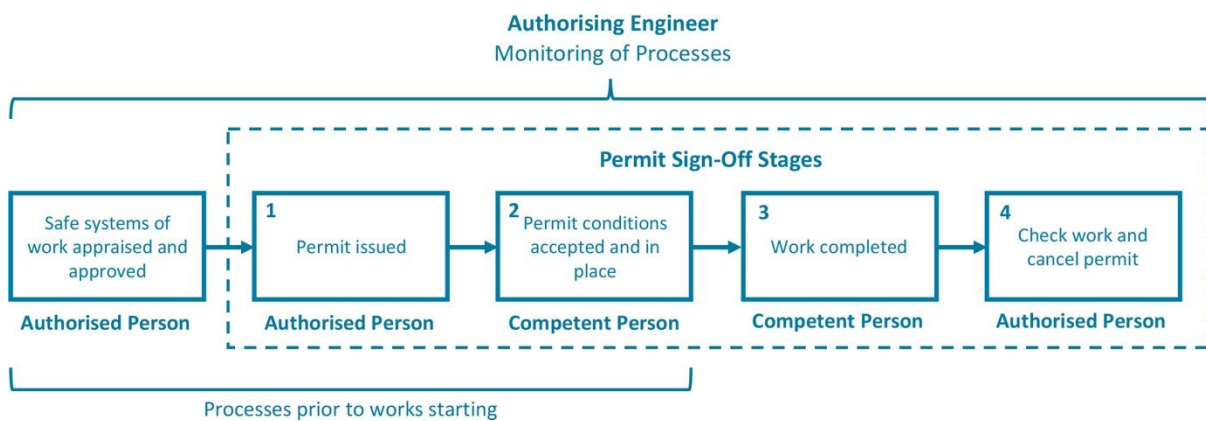
6.1. Permit Issuing Process

No high voltage electrical works shall commence until suitable and sufficient safe systems of work have been appraised and approved by the **Authorised Person**.

The **Authorised Person (HV)** will issue permits to the **Competent Person (HV)** following the permit sign-off stages below.

High voltage electrical works must be monitored to ensure that the work is being carried out in accordance with the requirements of the permit and that any safe systems of work are being followed.

Once the works are complete or on expiry of the permit, the permit must be returned to the **Authorised Person (HV)** for cancellation.



7. Monitoring and Inspection

The **Authorising Engineer (HV)** will ensure appropriate monitoring and inspections are in place to manage high voltage electrical work.

The **Senior Designated Person** will ensure appropriate monitoring and inspections are in place to manage high voltage electrical work.

The **Senior Designated Person** and **Designated Person** will undertake leadership walk rounds to ensure that this standard is being complied with.



8. Emergency Procedures

In case of emergency involving high voltage electricity, the following procedures must be carried out:

- Get help immediately (contact emergency services and get the electricity supplier to disconnect power)
- Do not attempt to rescue someone in contact with or closer than 18 metres from a high voltage electrical source until power has been disconnected and the system is made safe
- Do not use water-based hoses or extinguishers to fight any fires until the power has been disconnected and made safe

9. Associated Documents, Appendices and Resources

- The Electricity at Work Regulations 1989
- The Electricity Supply Regulations 1988
- British Standard 6626:2010 for Maintenance of electrical switchgear and control gear for voltages above 1kV and up to and including 36kV
- British Standard 6867:2013 for Maintenance of electrical switchgear and control gear for voltages above 36kV.