

# **Code of Practice**

# **LOCAL EXHAUST VENTILATION**

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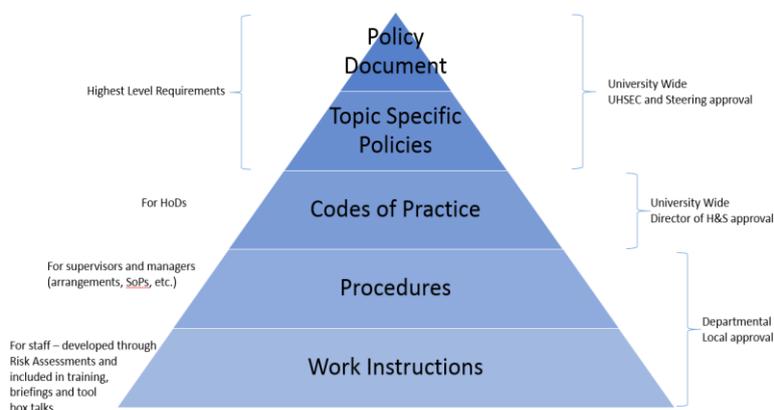
## 1 Purpose and Scope

This Code of Practice (CoP) applies to all local exhaust ventilation (LEV) systems used by staff, students, or visitors at the University of Warwick. Specifically, it details the University-wide arrangements and responsibilities for the procurement, management, design, installation, maintenance, testing and use of LEV.

This CoP forms part of the University of Warwick's Occupational Health and Safety Management System and supports the University of Warwick Local Exhaust Ventilation Policy. It should be read in conjunction with the Policy and the associated guidance on the management of LEV systems, which are available on the University's Health and Safety web pages (Ref. 1).

Departmental/Estates arrangements for all other aspects of the management of LEV are detailed in local procedures, including Standard Operating Procedures (SOPs) and Work Instructions, as indicated in the document hierarchy below:

**Figure 1: Health and Safety Document Hierarchy**



This CoP is based on a new 'corporate approach' to overall accountability for statutory inspections and compliance at the University<sup>1</sup>, with an initial focus on departments with a high volume of high-risk assets<sup>2</sup>.

Note: Although microbiological safety cabinets (herein referred to as MSC), are a type of LEV, they are currently subject to their own Code of Practice, which is available on the Health and Safety web pages (Ref. 1). A transition to the corporate approach for MSC is currently underway, and once completed, the MSC CoP and LEV CoP will be merged into a single document.

In the case of lease or licence arrangements, due consideration must be given to the extent, access, proposed use, maintenance and TEXT of any LEV systems falling wholly or partially within the demise of the relevant lease or licence. This applies to circumstances wherein the University is either landlord or tenant/occupier. Leases, Licences, and other agreements will be handled through the Estates office and must be in accordance with an application form process. For further information refer to the [Property Management](#) web page.

## 2 Introduction

The primary purpose of a LEV system is as an engineering control measure to reduce exposures to airborne contaminants in a workplace. Such contaminants may be gaseous, dust and other particulates, aerosols, vapours, fume, mist, or any combination of these.

<sup>1</sup> The 'corporate approach' is a new initiative to align the way statutory testing and compliance of equipment is managed across the University. Some of the accountabilities and responsibilities described within this document have therefore changed or are new. As such, there will be a transition period for this new approach to be fully implemented.

<sup>2</sup> Departments with the highest volume of high-risk assets: Life Sciences. WMG, Medical School, Engineering, Chemistry and Physics.

The requirement for use of LEV as a control measure shall be identified in the findings of a COSHH risk assessment for the relevant process(es).

The principal legislation is the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (Ref. 2), supported by the Approved Code of Practice (Ref. 3), the Provision and Use of Work Equipment Regulations 1998 (Ref. 5) and the Dangerous Substances and Explosive Atmospheres Regulations 2002 (Ref. 6).

Further guidance on the design, management and use of LEV systems is provided by the Health and Safety Executive in the document 'Controlling airborne contaminants at work: A guide to local exhaust ventilation (LEV)', HSG 258 (Ref. 4).

## 2.1 Definitions

Most LEV systems, but not all, have the following elements:

- **Hood:** This is where the contaminant enters the LEV.
- **Ducting:** This conducts air and the contaminant from the hood to the discharge point.
- **Air cleaner or arrestor:** This filters or cleans the extracted air. Not all systems need air cleaning.
- **Air mover:** The 'engine' that powers the extraction system, usually a fan.
- **Discharge:** This releases the extracted air in a safe location/state

The primary types of LEV systems in use at the University are:

- **Full Enclosure:** e.g. glove box, containment laboratory, microbiological safety cabinet (MSC)
- **Partial Enclosure:** e.g. fume cupboard, spray booth
- **Receptor Hood:** e.g. receiving hood over a hot process
- **Captor Hood:** e.g. downdraught table, extraction arm.
- **Low Volume, High Velocity (LVHV):** e.g. on-tool extraction for industrial tools such as grinding wheels, rotary sanders.
- **Dilution Ventilation:** e.g. providing clean air into a space for the reduction in concentration of an airborne contaminant.

All such LEV systems are subject to the statutory requirement for Thorough Examination and Test (herein referred to as TExT), at an interval not greater than 14 months. Further information concerning TExT can be found in chapter 4.3.

## 2.2 Competence

The Management of Health and Safety at Work Regulations 1999 and COSHH Regulations (Ref. 2) require a level of competence for whoever:

- specifies requirements of an LEV system;
- designs or selects LEV as a control measure;
- checks, tests or maintains LEV;
- audits compliance of LEV and/or LEV use;
- supplies, installs or otherwise provides LEV equipment, advice or other services to the University;
- uses LEV as a control measure.

Records of all staff and student LEV training shall be recorded and retained in accordance with the University Records Retention Schedule (Ref. 10).

When procuring new LEV systems, the supplier shall be required to provide training in how to use, check and maintain it.

Estates department contract with third-party organisations to provide independent TExT and maintenance services for the University, including the provision of competent persons for those tasks.

Further details concerning training and awareness required for working with LEV is available on the University's Health and Safety web pages (Ref. 1) and the training matrix within Appendix B.

### 3 Responsibilities

The principal responsibilities for the management of health and safety are stated in the University of Warwick Health and Safety Policy (with line management/delegation of duty described in the document 'Leadership and Management of Health and Safety at the University of Warwick') and complemented by a topic specific Policy for LEV. These documents are available via the University's Health and Safety web page: <https://warwick.ac.uk/services/healthsafetywellbeing/guidance/handspolicy>.

This document further clarifies the specific accountability and responsibilities held by roles within the University, in relation to LEV, and following the new 'corporate approach'. These responsibilities are summarised within the Responsibilities Grid for LEV (Appendix A) and allocated as follows:

#### 3.1 Duties of the Group Finance Director (Accountable Person for LEV)

The accountability for ensuring legal compliance with regards the maintenance, servicing and TExT of LEV systems within the University (excluding MSC) rests with the Group Finance Director, who has delegated the responsibility for the discharging of these duties to the Director of Estates.

The Group Finance Director remains accountable for:

- ensuring adequate budget and resource is made available for TExT, maintenance, remedial work and any training required to ensure compliance of LEV systems with the relevant legislation and guidance;
- ensuring that non-compliances notified to them are addressed, without undue delay.

#### 3.2 Duties of the Director of Estates (Responsible Person for LEV)

The Director of Estates is responsible for discharging duties of the accountable person for LEV, including:

- ensuring compliance with any relevant statute, ACOP, standard or guidance concerned with the installation of fixed systems and the maintenance, servicing, testing and inspection of LEV systems;
- ensuring implementation of LEV Policy, this Code of Practice and the associated arrangements, instructions and guidance, in areas under their control;
- ensuring the allocation of any necessary budget and resources for areas within their responsibility;
- ensuring availability of suitably trained and competent staff/contractors for TExT and maintenance;
- ensuring that a suitably trained and competent person is assigned as the Estates Technical Lead for LEV (see Chapter 3.7);
- ensuring the escalation of any non-compliance reported to them, to the Accountable Person.

The Director of Estates shall be assisted in the discharging of these duties by the involvement of competent personnel or contractors and supported by the Estates Technical Lead for LEV and the Health and Safety Lead for LEV.

Where the Director of Estates has employees engaged in the use of LEV as a control measure, they shall also assume the duties allocated to Heads of School/Department (see chapter 3.12).

### 3.3 Duties of the Director of Health and Safety

The Director of Health and Safety is responsible for:

- ensuring that the University's Health and Safety web pages for LEV are kept up to date with the related policy and guidance documents and these are communicated to stakeholders;
- ensuring that a suitably trained and competent person is assigned as the Health and Safety Lead for LEV (see Chapter 3.4);
- providing health and safety resource to advise and support departments, to enable the departments to produce suitable and sufficient risk assessments and procedures for activities involving the use of LEV;
- ensuring that spot checks, inspections and internal planned audits are carried out to provide assurance that activities relating to LEV management and use are being performed in compliance with the Policy and arrangements. Thus, providing the 'second line of defence' and 'third line of defence' for assurance, as illustrated in Appendix C;
- providing any appropriate intervention to prevent ongoing and/or repeated non-compliance that gives rise, or could give rise, to statutory breach and/or a risk to health or the environment;
- reporting back to the Responsible Person, Head of Assurance, Risk and Property and the appointed H&S Lead, as appropriate, any non-compliance discovered or notified to them.

### 3.4 Duties of the Health and Safety Lead for LEV

Appointed, by the Director of Health and Safety, the Health and Safety Lead for LEV (herein referred to as H&S Lead) shall be the lead advisor within the University on matters relating to LEV safety. The H&S Lead, working with the Estates Technical Lead and supported through engagement of competent personnel or consultants, as necessary, is responsible for:

- Ensuring they maintain and keep up to date knowledge of the health and safety legislation and associated Regulations, ACOPs or sector guidance concerning LEV systems, communicating any relevant updates that may impact others in the organisation;
- providing advice to the accountable person, and any other person allocated responsibility in this document, on the health and safety standards and regulations that must be achieved with respect the discharging of their duties. These include, but are not necessarily limited to specification, design, procurement, maintenance, servicing, testing, inspection and use of LEV;
- providing internal guidance in relation to the creation and installation of new assets, maintenance, servicing, testing and inspection and use of LEV;
- identifying any health and safety training and awareness required, across the University;
- supporting the development of policy, this Code of Practice, and the creation and update of departmental SOPs;
- reviewing requests for new LEV systems, as advised to them by Departments or Capital Programmes, and providing health and safety advice concerning their suitability as a control measure;
- providing health and safety advice concerning the generation of documents essential to system compliance, where these have not historically been in place;
- highlighting any non-compliance discovered or reported to them, to the person responsible, escalating if required.

### 3.5 Duties of the Capital Programme Director (Estates)

The Capital Programme Director, supported by their respective programme/project managers and engagement of competent personnel or consultants, as necessary, is responsible for:

- ensuring that requests for new LEV or modifications to existing LEV, made via an Estates project, are reviewed by the Technical Lead and the H&S Lead and in conjunction with the risk assessment provided by the requesting department;
- ensuring that the specification of new LEV systems that are supplied through Estates meet the requirements of legislation, ACOPs, standards and guidance, as appropriate;
- ensuring that any design takes account of any requirements of the Dangerous Substances and Explosive Atmospheres Regulations (Ref. 6) and associated Approved Code of Practice (Ref. 7);
- ensuring that any LEV system installed or modified during a project is appropriately commissioned, and that the commissioning is witnessed by the client and by maintenance representatives, and advised upon by the H&S and Technical Leads;
- ensuring the timely receipt of all required documentation and the provision of such documentation and asset information (in the required format) to the Assets and Information Team, department, and to maintenance (see chapter 4.4, Documentation and Record Keeping);
- ensuring periodic review of the Mechanical Electrical and Public Health (MEP) Design Standards (involving the Technical Lead and the H&S Lead, as required) to ensure that they remain current with the applicable legislation and standards.

Appendix D provides an overview of the process used for Estates capital projects involving LEV systems.

### 3.6 Duties of Director of Operations (Estates)

The Director of Operations, supported by their respective managers, is responsible for:

- planned preventative maintenance (PPM), TExT and remedial maintenance of all LEV systems which have been notified to Estates, or are owned/managed by Estates (except for any specific specialist LEV systems, as agreed with the owning/using department);
- ensuring suitable resource and budget are available for PPM, TExT, remedial maintenance and any associated training for Estates staff;
- escalating any non-compliance discovered or notified to them, to the Responsible Person.

### 3.7 Duties of the Estates Technical Lead for LEV

Appointed, by the Director of Estates or other member of the Estates management team, the Estates Technical Lead for LEV (herein referred to as Technical Lead) shall be the lead advisor within the University on matters relating to the technical and engineering aspects of LEV systems. The Technical Lead, working with the H&S Lead and supported through engagement of competent personnel or consultants, as necessary, is responsible for:

- Ensuring they maintain and keep up to date technical knowledge of industry standards and best practice concerning LEV systems and an understanding of the relevant legislation, ACOPs and sector guidance, communicating any updates that may impact others in the organisation;
- providing technical advice to the accountable person, and any other person allocated responsibility in this document, on the engineering aspects for LEV that must be achieved with respect the discharging of their duties. These include, but are not necessarily limited to, specification, design, procurement, maintenance, servicing, testing, inspection and operation of LEV;
- providing internal technical guidance in relation to the selection, procurement and installation of new assets, maintenance, servicing, testing, inspection and operation of LEV;

- identifying any technical training and awareness required, across the University;
- supporting the development of policy, this Code of Practice, and the creation and update of departmental SOPs;
- reviewing requests for new LEV, as advised to them by Departments or Capital Programmes, and advising on suitability with the new or existing building infrastructure;
- providing technical advice concerning the generation of documents essential to system compliance, where these have not historically been in place;
- highlighting any non-compliance discovered or reported to them, to the person responsible, escalating if required.

### 3.8 Duties of the Head of Maintenance (Estates)

The Head of Maintenance, supported by their personnel, is responsible for:

- putting into place arrangements for maintenance, TExT and remedial works relating to LEV systems which have been notified to Estates (except for any specific specialist LEV systems, as agreed with the owning/using department);
- ensuring that any information arising from maintenance, TExT or remedial works, under their direction or control, is retained and communicated to relevant stakeholders;
- providing to any employees under their control, the information, instruction and training required for proper execution of that role;
- ensuring that any person required to undertake work on LEV has sufficient competence to safely complete the task, and that any relevant arrangements have been made to mitigate risks to safety;
- assigning a Contract Supervisor for LEV, to manage any contracts with external specialists and to act as the primary interface between Estates and departments with regards to the maintenance and TExT service for LEV;
- addressing, through engagement of competent personnel or contractors and supported by the H&S Lead and the Technical Lead, the generation of documents essential to system compliance, where these have not historically been in place;
- ensuring that there are suitable arrangements in place for the safe disposal of material collected by filters or other air cleaning devices;
- reporting back to the Director of Operations and Head of Assurance, Risk and Property any non-compliance discovered or notified to them.

### 3.9 Duties of the Contract Supervisor for LEV (Estates)

The Contract Supervisor for LEV is the prime interface to any third-party contractor providing a TExT and maintenance services for LEV, as contracted by Estates. Supported by the involvement of relevant personnel, as necessary, they are responsible for:

- ensuring that any contractor required to undertake work on LEV has sufficient competence to safely complete the task, and that any relevant arrangements have been made to mitigate risks to safety;
- ensuring that the external contractor(s) providing maintenance and TExT for LEV is delivering the required level of service, including notification of the TExT results and delivery of documentation in a timely manner;
- ensuring that all contractors complete the necessary induction for the areas where they will be working;
- ensuring that the contractor provides a task-specific risk assessment for the work to be undertaken;

- timetabling and coordinating maintenance, TExT and remedial works for each Department/School in consultation with the Departmental Point of Contact(s) for LEV (see Chapter 4.3 and Appendix G).

### **3.10 Duties of the Head of Estates Information and Systems**

The Head of Estates Information and Systems is responsible for:

- maintaining the asset register of LEV systems and equipment, as notified to Estates;
- retention of the install and initial commissioning documents received by Estates, in relation to LEV systems;
- retention of the TExT documents received by Estates, in relation to LEV systems;
- making these documents and information available to those stakeholders requiring access to such as part of the responsibilities allocated herein.

These documents and information shall be retained in accordance with the relevant legislation and the University Records Retention Schedule (Ref. 10).

Appendix E provides an overview of the asset recording process to be used at the University.

### **3.11 Duties of the Head of Assurance, Risk and Property (Estates)**

The Head of Assurance, Risk and Property is responsible for:

- ensuring that spot checks and planned audits are carried out to provide assurance that activities relating to LEV installation, management, maintenance, and TExT are being performed in compliance with the Policy and arrangements. Thus providing a 'second line of defence' for assurance, as illustrated in Appendix C;
- ensuring that there are sufficient, suitably trained and competent staff to carry out such assurance tasks;
- seeking assurance that the arrangements for leasing of spaces includes due consideration of the extent, access, proposed use, maintenance and TExT of any LEV systems falling wholly or partially within the demise of the lease. This applies to circumstances wherein the University is either landlord or tenant/occupier.
- reporting back to the Responsible Person, Director of Health and Safety and Director of Operations (as appropriate) any non-compliance discovered or notified to them.

### **3.12 Duties of Heads of School/Department**

Heads of Schools/Departments, supported by their respective managers and personnel, are responsible for:

- ensuring local implementation of LEV Policy, this Code of Practice and the associated arrangements, instructions and guidance, in areas under their control;
- ensuring that departmental procedures (SOPs, work instructions, local emergency procedures) are created and communicated, detailing how an activity or process using LEV within that department is to be carried out, managed and monitored;
- identifying the department's Point of Contact(s), to act as the primary interface(s) to Estates and users with regards to LEV;
- ensuring the production and review of suitable and sufficient risk assessments for activities under their control;
- ensuring the identification, implementation and monitoring of control measures, potentially including LEV;

- ensuring that local arrangements are put in place for the TExT and maintenance of any specialist departmental LEV systems not covered under the Estates framework contract for examination or maintained by Estates.
- ensuring that departmental checks are carried out at agreed intervals, documented and made available to the Director of Health and Safety and the Director of Estates or their nominated deputies;
- ensuring the escalation of any non-compliance reported to them, to the Responsible Person.

### **3.13 Duties of Technical Service Managers / Facilities Managers**

Technical Service Managers and Facilities Managers within Schools/Departments, supported by their respective managers and staff, are responsible for:

- ensuring that any person under their control required to undertake work on LEV has sufficient competence to safely complete the task, and that any relevant arrangements have been made to mitigate risks to safety;
- cooperating with arrangements for maintenance, TExT and remedial works, providing local technical and facilities support, as required;
- ensuring that departmental checks are carried out to provide assurance that activities relating to LEV maintenance and TExT are being performed in compliance with the Policy and arrangements. Thus, providing a 'first line of defence' for assurance, as illustrated in Appendix C;
- putting into place departmental arrangements for the safe disposal of material collected by filters or other air cleaning devices;
- escalating any non-compliance discovered or reported to them, to the Head of School/Department and to the Director of Operations, as appropriate.

In many departments the Technical Service Manager/Facility Manager will also assume the responsibilities of the Point of Contact for LEV (see Chapter 3.14).

### **3.14 Duties of Point of Contact for LEV (School/Department)**

Departmental Point of Contact(s) for LEV are responsible for:

- validating that all LEV systems used within their department or facility are asset tagged and included in the register of items maintained and examined through Estates;
- working with Estates maintenance, the Estates Contract Supervisor and the appointed contractor to locally timetable and facilitate maintenance/inspection visits, TExT and remedial works related to LEV (see Chapter 4.3 and Appendix G for more details regarding TExT);
- informing end users that a piece of LEV equipment has failed TExT, ensuring it is marked as unfit and taken out of use, until remedied;
- monitoring, and escalating to Estates maintenance, the Estates Contract Supervisor, or Technical Service Manager/Facility Manager as necessary, reports of defects, failure or issues with regards LEV.

### **3.15 Duties of Principal Investigators / Supervisors**

Principal Investigators (PIs) and Supervisors of staff and students using LEV are responsible for:

- providing all required information, instruction, training and supervision to users, in relation to the correct selection, operation and user checks of any LEV system;
- maintaining records of all LEV training and ensuring only those trained are authorised to use the system;
- ensuring that work using LEV systems is undertaken in accordance with the risk assessment and the level of protection/control provided by that system e.g. flow rates are adequate to protect the user;

- ensuring the use of LEV systems in accordance with the user manual/operating instructions including the maintaining of the LEV logbook;
- monitoring LEV operation and user checks to ensure they are being carried out in accordance with instructions, providing a 'first line of defence' for assurance, as illustrated in Appendix C;
- ensuring that, for new LEV systems not acquired or installed through Estates Capital Programmes, the Technical Lead and the H&S Lead are consulted before purchase and that sufficient information is supplied to determine the correct specification of LEV (see also Chapter 4.1, System Specification, Design and Procurement);
- ensuring that the Technical Lead and the H&S Lead are consulted regarding any proposed modifications to existing LEV systems before any changes are made;
- ensuring advice is obtained from the Technical Lead and H&S Lead (or other competent person) concerning the continued suitability of the LEV as a control measure before significant changes are implemented with regards to the process or equipment that LEV is serving, type of hazard or workplace layout;
- checking that new work undertaken in their process does not have the potential to interfere with linked LEV systems i.e. that discharge through common ducting/stacks, does not give rise to the mixing of incompatible substances or the introduction of contaminants for which the design of the system was not intended;
- checking that, where there is a substantial change to a process, the volumes or types of hazardous substances in use, the change does not give rise to the mixing of incompatible substances or the introduction of contaminants or volumes of contaminants in to the system for which it was not designed;
- ensuring that all LEV systems under their control are asset tagged and added to the register of items to be inspected, including the provision of the related asset information and documentation, by the completion of the Statutory Inspection Report Form (Ref. 9);
- cooperating with arrangements for maintenance, TExT and remedial works and making available any LEV system requiring such. TExT should ideally be performed during operation, or in as close a condition to its normal operating condition as possible;
- providing information about the type of work and risks from substances/materials or potential contaminants used in the LEV system to Estates upon request, when designing new systems or prior to Estates maintenance staff, contractors or engineering inspectors working on the LEV system;
- ensuring appropriate decontamination is carried out prior to any maintenance, TExT and remedial works;
- ensuring that any LEV system is taken out of use immediately following notification of a TExT failure, or notification of a fault/condition that could give rise to danger;
- seeking further information and advice as necessary, from the Technical Lead, H&S Lead, competent personnel or consultants, before working with LEV systems.

### 3.16 Duties of LEV Users

Staff and students using LEV are responsible for:

- ensuring that the correct LEV is used as per the activity risk assessment to control exposure to the identified hazardous substances;
- ensuring that work requiring the use of LEV equipment is only undertaken following the provision of adequate information, instruction and training;
- maintaining a safe working environment whilst working with LEV;

- undertaking any user checks of the LEV system that may be required, and recording any defects in the logbook (see Chapter 4.4, Documentation and Record Keeping and Appendix F);
- reporting any defect associated with their LEV system, without delay, to their PI/supervisor initially, ensuring that the fault is logged via the Estates Helpdesk where appropriate (see Appendix F);
- following the operating procedures, including any local emergency procedures in the event of a failure of the LEV system;
- not using the LEV inappropriately or for anything other than its intended purpose;
- leaving the LEV in a safe condition during closure periods.

Further information and pro forma logbooks, including 'good practice' guidance for LEV users is available on the University's Health and Safety web pages (Ref. 1).

## 4 Requirements for LEV Systems

COSHH (Ref 2) requires that the risks from hazardous substances must be controlled. Installing a LEV system may help do this, but departments should consider other options first, following the Hierarchy of Control. Information about other ways of eliminating or reducing airborne contamination at work is available on the HSE's COSHH web pages: [www.hse.gov.uk/coshh](http://www.hse.gov.uk/coshh).

LEV should be installed, where practicable, where airborne workplace exposure limits (WELs) are still exceeded by the process after other controls have been put in place (see Ref. 8: EH40 Workplace Exposure Limits, EH40/2005, Table 1)

### 4.1 System Specification, Design and Procurement

The specification of LEV systems, including those outside of capital projects (e.g. portable systems, or those which are contained in a single piece of apparatus) shall follow the guidance set out in HSG258 (Ref. 4), which details the process that must be followed when buying LEV systems. This includes the need for departments to identify:

- other elements of the process that contributes to controlling exposure;
- user working practices;
- the nature of the contaminants, and how they may be generated;
- exposure limits, and any appropriate benchmarks for performance of the LEV.

Where a LEV system requires any element of design, prior to installation, it shall be specified in relation to the risk assessment for the specific process for which it is intended to be used as a control measure, wherever possible. This may include the use of a suitable and sufficient generic risk assessment for a range of activities of similar risk.

If departments need assistance in developing the specification, they should seek advice from the H&S Lead and the Technical Lead, or other competent person to help in the selection of the right type of LEV.

When procuring new LEV systems, the supplier shall be required to provide a user manual and logbook (see Chapter 4.4, Documentation and Record Keeping) and to provide training in how to use, check and maintain it.

### 4.2 Maintenance

Where maintenance requirements (e.g. filter examination/replacement, motor performance checks) exist, these shall be undertaken in line with the manufacturer's prescribed intervals. If no such documentation exists, a risk-based approach will be undertaken to define the periodicity of such works, informed by the Technical Lead or other competent person, as necessary.

Maintenance may require isolation of a part or system. Where this is the case, adequate arrangements shall be made with the department to avoid any loss of control of airborne contaminants.

Maintenance tasks shall only be undertaken by personnel or contractors who demonstrate the required level of competence to undertake those tasks in a safe manner and to the required standard of workmanship.

Risk assessments for maintenance tasks shall be reviewed in cooperation with departmental staff, to ensure that information relating to potential contaminants is adequately incorporated, in addition to the hazards and controls arising from the task itself and the work environment.

Departments must allow appropriate access when required to carry out maintenance activities; this should be facilitated through the Departmental Point of Contact for LEV, having received prior notification, whenever possible.

Where departments carry out or organise maintenance tasks, a record must be kept locally, and a copy made available to Estates.

### 4.3 Thorough Examination and Test (TExT)

All LEV systems must have a statutory TExT, by a competent person, at least once in a period of 14 months from the date of the last test. Where excessive wear and tear may lead to degradation of the system or the activities pose an increased risk, more frequent TExT may be required, and some systems have shorter statutory periodicities. Further details of these periodicities are available in Schedule 4 of COSHH (Ref. 2).

For those systems for which a 14 month periodicity applies, in practice the University plan for TExT at intervals of 12 months.

Estates department contract with third-party organisations to provide independent TExT services for the University.

Departments must register all LEV systems under their control for TExT, by completing the Statutory Inspection Report Form (Ref. 9).

Departments must appoint Point of Contact(s) for LEV to work with the Estates Contract Supervisor and the appointed contractor to locally timetable and facilitate the TExT and remedial works.

The competent person undertaking TExT shall provide a record of the results to the Contract Supervisor (including any remedial actions required). They shall also update the information on the asset with the TExT date and result.

Any LEV system that fails TExT must be clearly identified and the Departmental Point of Contact and any users in the area informed, prior to the competent person leaving that area. Such repairs as required for the system to achieve an acceptable level of control must be undertaken before the system is brought back into use. All TExT reports and records of remedial maintenance must be kept for at least five years.

Where the latest date for the next TExT has passed, the LEV shall be taken out of use until satisfactory TExT has been achieved.

Appendix G provides an overview of the TExT and certification process to be used at the University.

### 4.4 Documentation and Record Keeping

All LEV systems must have the following documents:

- **A user manual:** that describes and explains the LEV system, and how to use, check, maintain and test it, along with performance benchmarks and schedules for replacement of parts.
- **A logbook:** to record the results of checks and maintenance on the system.

Both documents must be readily available for reference by users or maintainers and kept up to date. They can be held in paper format or electronic format.

In addition, documentation relating to the installation and commissioning of the LEV system must be obtained. Such documentation includes but is not necessarily limited to: system schematics including test points, details of the performance specification, description of the commissioning, commissioning test results, and a description of how operators should use the system so it works effectively.

Where it is not possible to obtain these documents from the manufacturer/installer of a system, the relevant information shall be determined and recorded, by a competent person, and be subject to review by the Technical Lead.

Records of examination, maintenance and checks must be stored securely and made available to those stakeholders requiring access to them. These records should be retained in accordance with the University Records Retention Schedule (Ref. 10), and in any case, records of TExT must be retained for at least 5 years.

Where examination is carried out by an external contractor, those records must be made accessible to the University.

Asset information, as provided by departments to Estates, will be held by the Head of Estates Information and Systems (see Chapter 3.10) and made available within QuEMIS<sup>3</sup> or an alternative suitable data repository.

Records of all staff and student training on LEV shall be recorded and retained in accordance with the University Records Retention Schedule (Ref. 10).

#### **4.5 Decommissioning**

Where a LEV system is to be removed, consideration must be given to the decontamination and safe disposal of the equipment, with particular focus given to the correct disposal of hazardous materials. The extent and type of decontamination required will depend on the nature of substances extracted by the system and the accessibility to the various parts of the system.

Decontamination of the LEV system may be undertaken internally, by suitably competent contractor, or a combination of both. A suitable risk assessment must be undertaken and information about the hazards posed by any substances used must be made available by the department to those undertaking the decommissioning work.

Any proposed decommissioning of fixed LEV systems (those which connect to ductwork or other building infrastructure) must be advised to Estates.

Departments must also ensure they follow relevant University financial procedures concerning disposal of assets and the update of financial asset registers and inventory lists.

Following decommissioning and disposal, Departments must complete the Statutory Inspection Report Form (Ref. 9) in order that the LEV system is removed from the TExT register.

## **5 Operational Use**

A suitable and sufficient risk assessment must be in place, prior to any work involving LEV and must be enacted by the department.

The department must ensure that LEV systems are operated only by persons trained to do so, and in line with the requirements and limitations of that system.

Use of LEV apparatus should only commence following any required user checks and an assessment that the system is operating correctly by the department.

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<sup>3</sup> 'QuEMIS' is the University of Warwick's online asset and maintenance recording system. The system generates planned and reactive maintenance tasks.

LEV systems should only be used for their intended purpose, i.e. to control exposure to hazardous substances, as identified in the risk assessment.

LEV systems must be left in a safe condition during closure periods.

Where there is a failure of the LEV, an adverse incident, a significant change in the process, or other factors that could affect the efficacy of control, the use of that system shall cease, and a notice displayed to inform potential users. The system shall not be brought back into use until any relevant investigation, maintenance or TExT has been completed and the system declared suitable.

Appendix F provides an overview of the user checks and fault reporting process to be used at the University.

## 6 References

1. University of Warwick Local Exhaust Ventilation Policy and associated instructions and guidance: <https://warwick.ac.uk/services/healthsafetywellbeing/guidance/lev>
2. The Control of Substances Hazardous to Health Regulations 2002 (as amended): <https://www.legislation.gov.uk/ukxi/2002/2677/contents/made>
3. Approved Code of Practice and guidance (ACOP L5) to the Control of Substances Hazardous to Health Regulations 2002: <https://www.hse.gov.uk/pubns/priced/l5.pdf>
4. Controlling airborne contaminants at work. A guide to local exhaust ventilation (LEV). HSG258, HSE: <https://www.hse.gov.uk/pubns/priced/hsg258.pdf>
5. Provision and Use of Work Equipment Regulations 1998 (as amended): <https://www.legislation.gov.uk/ukxi/1998/2306/contents/made>
6. The Dangerous Substances and Explosive Atmospheres Regulations 2002 (as amended): <https://www.legislation.gov.uk/ukxi/2002/2776/contents/made>
7. Dangerous Substances and Explosive Atmospheres Regulations 2002. Approved Code of Practice and guidance (ACOP L138): <https://www.hse.gov.uk/pubns/priced/l138.pdf>
8. EH40 Workplace Exposure Limits, EH40/2005, HSE, 2005: <https://www.hse.gov.uk/pubns/priced/eh40.pdf>
9. Statutory Inspection Report Form: [https://warwick.ac.uk/services/healthsafetywellbeing/guidance/statest/crimson/plant\\_equipment\\_statutory\\_testing/](https://warwick.ac.uk/services/healthsafetywellbeing/guidance/statest/crimson/plant_equipment_statutory_testing/)
10. University Records Retention Schedule: <https://warwick.ac.uk/services/sim/guidance/recordsmanagement>

## 7 Document Control

Document Control			
Version Number	Date issued	Author	Update information
v1	28/10/2020	John Brandist	Initial version of document
v1.1	17/06/2021	John Brandist	Subject Matter Expert role renamed as Health and Safety Lead. New role and duties of Estates Technical Lead for LEV added. Information on record keeping added to Chapter 4.4. Other minor edits to address comments received.
v1.2	01/02/2022	John Brandist	Updates following comments received from review. New addition concerning lease/licence arrangements. Added scope for exceptions from the 'corporate approach' for specific specialist LEV systems. Section on decommissioning added. Process flows in Appendix E and G updated to separate out activities performed by the 'competent third party'.
Owner: John Phillips, Director of Health & Safety			Authorised By: John Phillips, Director of Health & Safety
Source Location: M:\SF\OCH 2006\Management System\02 Develop and Implement Controls\04 SOPs and COPs(B5)\10 LEV			Approval Date: 09/02/2022
Published Location: <a href="#">Web Page</a>			Review date: February 2025



## Appendix A – Responsibility Grid for LEV

Roles and Responsibilities - Statutory Inspections & Compliance (Future State)

Prog Board Area	Statutory Area	Corporate Approach	ACCOUNTABLE				RESPONSIBLE		TASK	SUPPORT			INFORM	ASSURANCE		
			Accountable	Responsible	Delegated Responsibility	Delegated Responsibility	As Detailed in the CoP	Department Point of Contact	Estates Technical Lead	Health and Safety Lead	Inform	First Line	Second Line	Third Line		
LEV	Fume Cabinets & LEV (Fixed)	Yes	Group Finance Director	Director of Estates	Operations Director Estates	Head of Maintenance	Detailed in the CoP	Technical Services / Facilities Management	Assurance and Risk Officer, Estates	Chemical Adviser, Health and Safety Services	Technical Services Manager / Facilities Manager Users	PI/Supervisor (user checks) Technical Services Manager (planned and remedial maintenance)	Estates Assurance Departmental Assurance/Compliance Health & Safety Officers	Health and Safety Services Internal Audit (Governance)		
	Fume Cabinets & LEV (Non Fixed)	Yes	Group Finance Director	Director of Estates	Operations Director Estates	Head of Maintenance	Detailed in the CoP	Technical Services	Assurance and Risk Officer, Estates	Chemical Adviser, Health and Safety Services	Technical Services Manager Users	PI/Supervisor (user checks) Technical Services Manager (planned and remedial maintenance)	Departmental Assurance/Compliance Health & Safety Officers	Health and Safety Services Internal Audit (Governance)		
	Microbiological Safety Cabinets	Yes	Group Finance Director	Director of Estates	Operations Director Estates	Head of Maintenance	Detailed in the CoP	Technical Services	Assurance and Risk Officer, Estates	Biological Adviser, Health and Safety Services	Technical Services Manager Users	PI/Supervisor (user checks) Technical Services Manager (planned and remedial maintenance)	Estates Assurance Departmental Assurance/Compliance Health & Safety Officers	Health and Safety Services Internal Audit (Governance)		

**Corporate Approach** where arrangements for statutory inspection and compliance are centrally managed by Estates.

- R = Responsible** who is in charge of recommending what work is done and making sure it happens.
- A = Accountable** who has final decision power on the work.
- T = Task** who actually does the work (or arranges for it to be done).
- S = Support** who is involved to provide support to the work.
- I = Informed** who is informed that the work has been done (or will be started).
- A = Assurance** who is checking that the work is done and procedures are followed.

## Appendix B – Training Matrix

A matrix of qualification and competence requirements for individuals performing the role specified below

		Competence Requirement						
		Internal Training		External Training				
		Risk Assessment training, including COSHH	LEV System User Training	BOHS P600 - Methods for Testing the Performance of LEV*	BOHS P601 - Thorough Examination and Testing of LEV*	BOHS P602 - Basic Design Principles of LEV*	BOHS P604 - Performance Evaluation, Commissioning and Management of LEV*	Mechanical Engineering Qualification*
Role	Accountable Person	X						
	Responsible Person	X	R					
	Health & Safety Lead for LEV	X	X	R	X	X	R	
	Technical Lead for LEV	X	X	R	X	X	R	
	Head of Department	X						
	Technical Services Manager/Facilities Manager	X	X					
	Department Point of Contact	R	X					
	PI/Supervisor	X	X					
	LEV User	X	X					
	Contract Supervisor for LEV	X	X		R			
	LEV Maintenance Operative	X	X					
	LEV System Specifier	X	X					
	Competent Person (TEXT) <sup>1</sup>				X			
LEV System Designer <sup>1</sup>	X	X			X		X	
LEV System Commissioner <sup>1</sup>				X		X		

### Key to Symbols

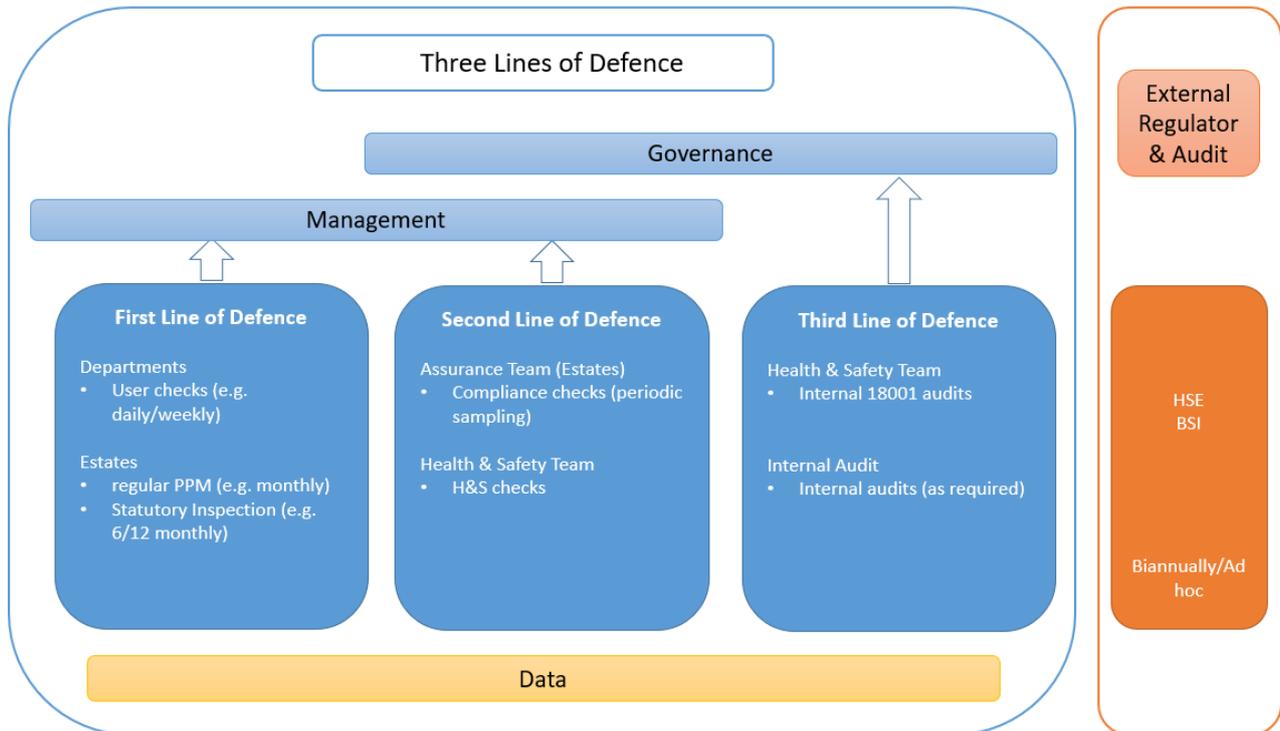
X = Required

R = Recommended

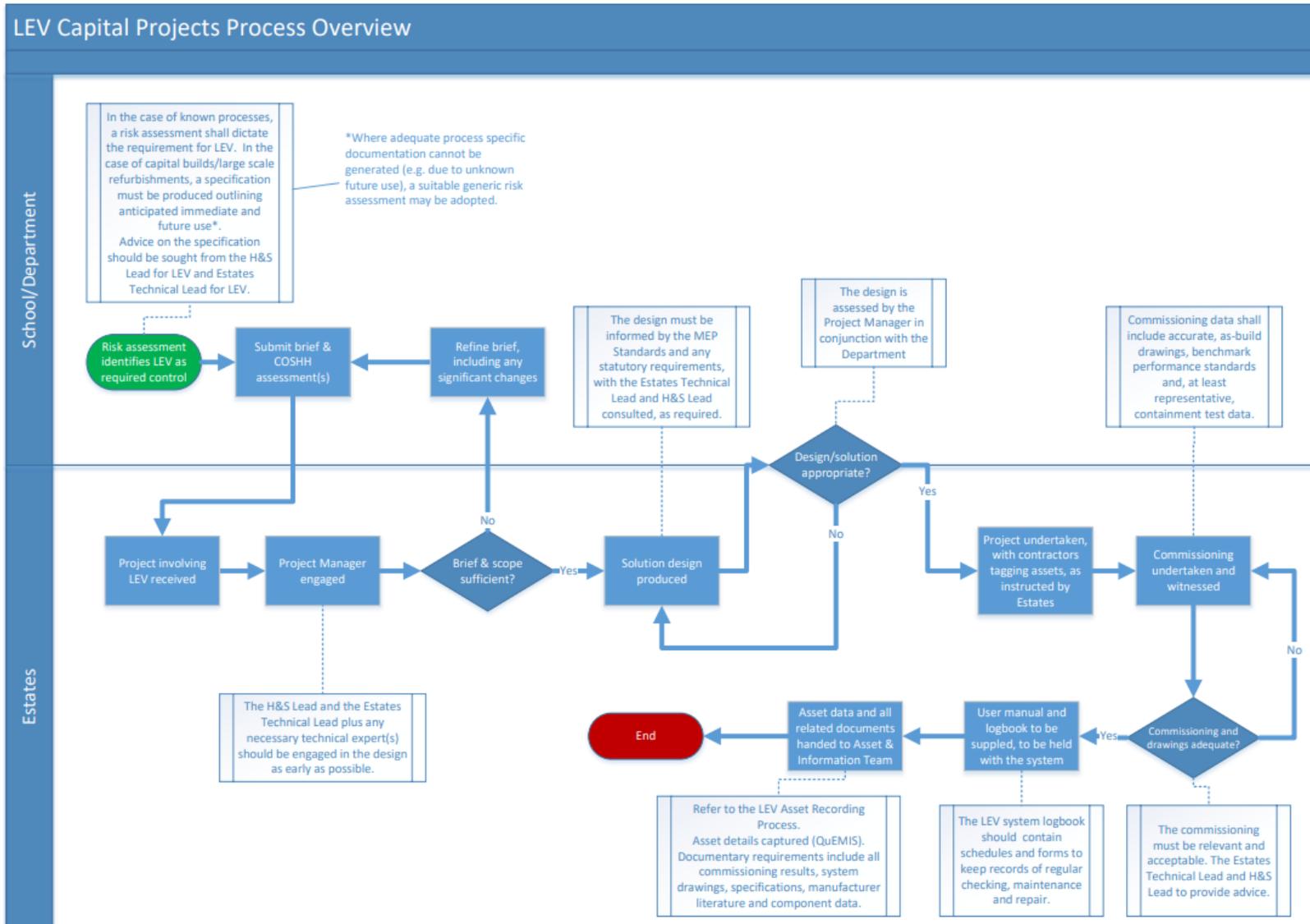
\* = Or equivalent e.g. alternative training or demonstrated by relevant experience and knowledge.

<sup>1</sup> = Routes to becoming professionally competent in the design, supply, commission and test of LEV systems include qualifications through British Occupational Hygiene Society (BOHS), Chartered Institution of Building Services Engineers (CIBSE) and Institution of Local Exhaust Ventilation Engineers (ILEVE).

## Appendix C – Assurance: Three Lines of Defence

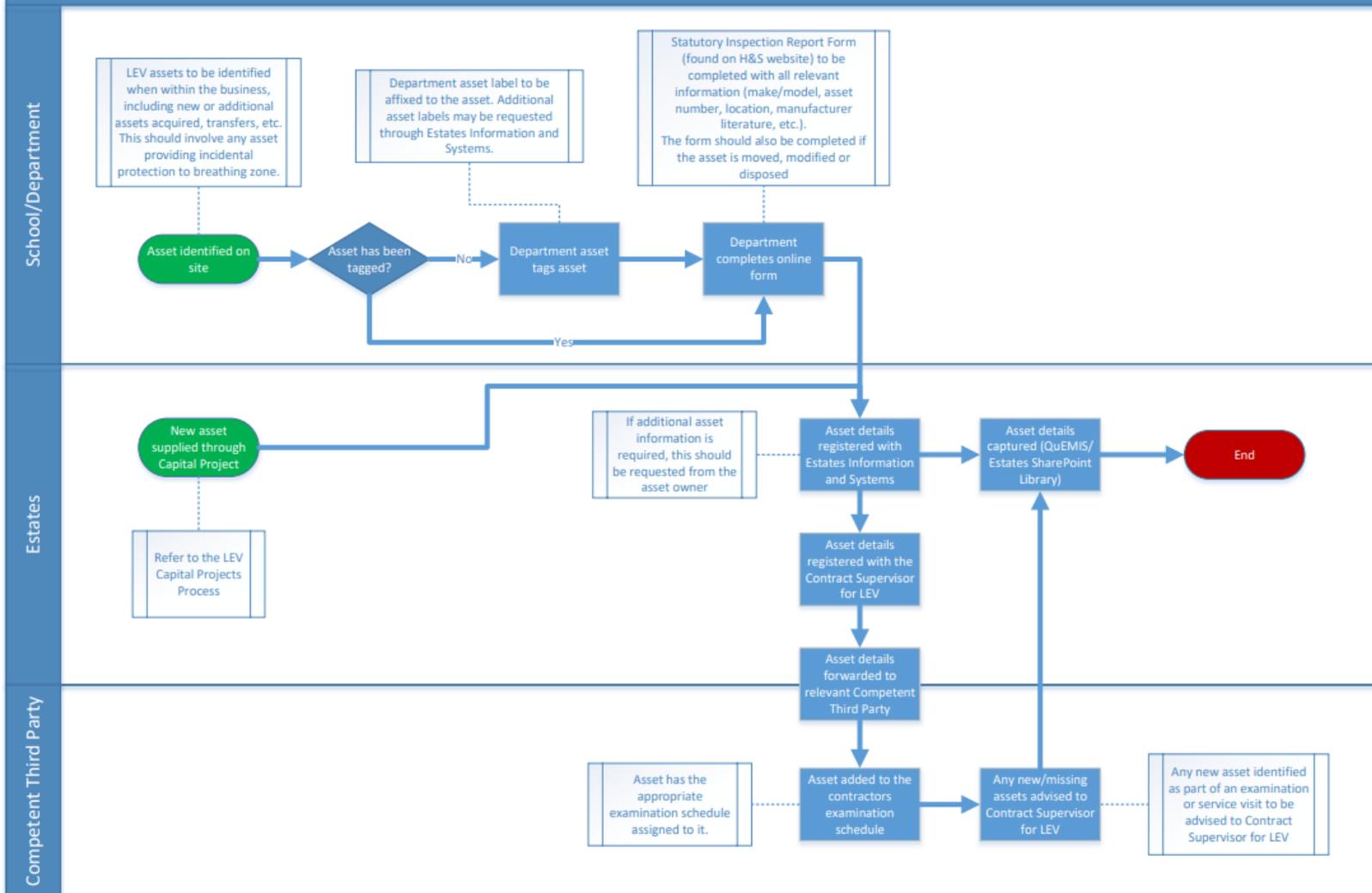


## Appendix D – LEV Capital Projects Process Overview

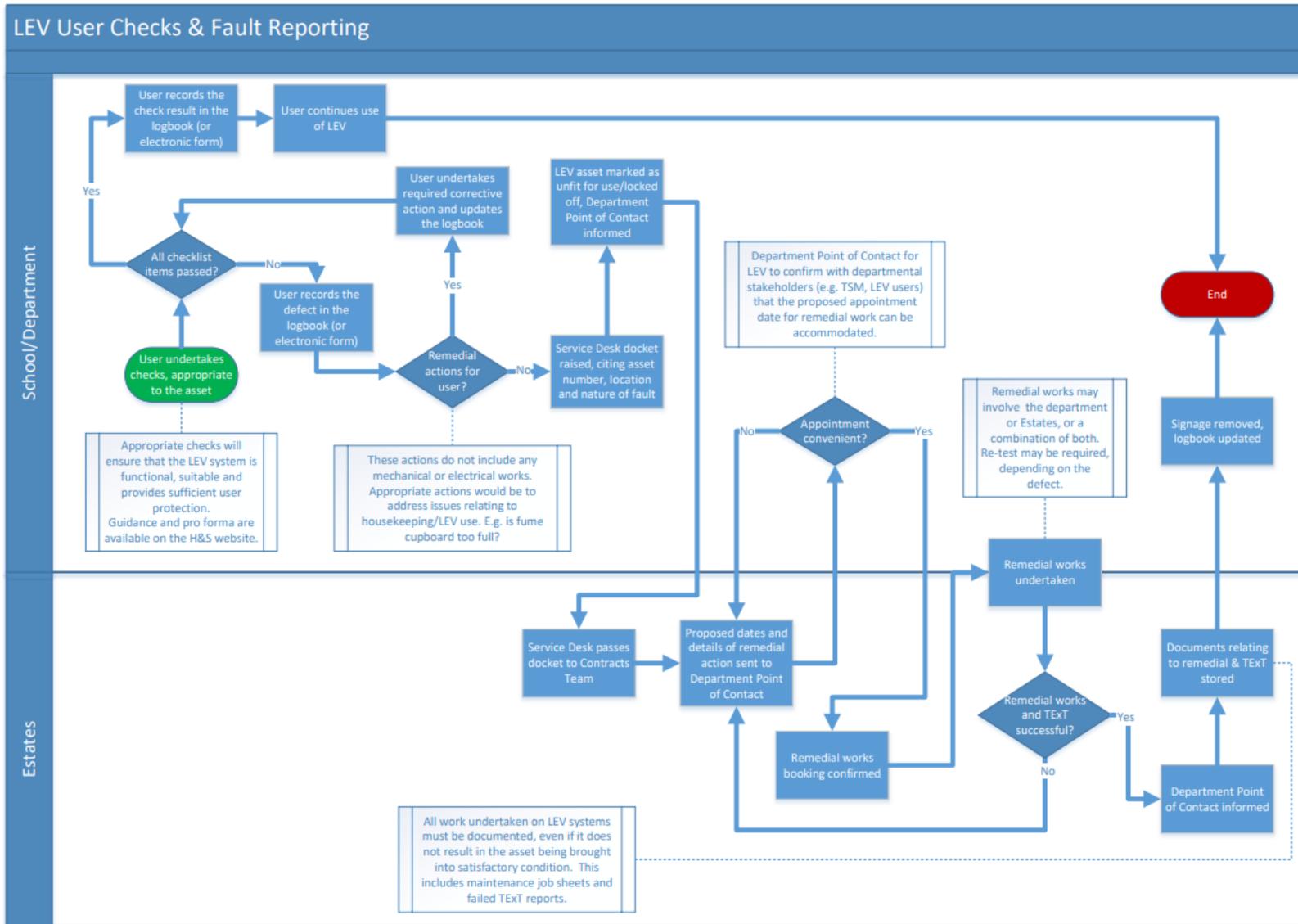


## Appendix E – LEV Asset Recording Process Overview

### LEV Asset Recording – Process Overview



## Appendix F – LEV User Checks and Fault Reporting Process Overview



## Appendix G – LEV TExT and Certification Process Overview

