

Management of Ventilation Systems Policy

Policy for the Safe and Compliant Management and 'Safe Operation' of Ventilation Systems

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CONSULTATION AND DISTRIBUTION RECORD	
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Distribution:	<ul style="list-style-type: none"> • Directors of Hospital Services • General Managers • Operational Managers • All staff through FirstPort – NHSL Web Portal

CHANGE RECORD			
Date	Author	Change	Version No.
03/07/23	Head of Technical Services	Updated Responsibilities 4.2.3 Updated to include SHTM guidance on critical ventilation systems and maintenance requirements. 4.5 wording change to include Risk Control measures and mitigations will be documented in the Ventilation Maintenance Plan. Updated References.	2

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1. Introduction

The Health Act places a duty of care on healthcare providers. Increased health risks to patients will occur if ventilation systems do not achieve and maintain the required standards. The link between surgical site infection and theatre air quality has been well established. If the ventilation plant has been installed to dilute or contain harmful substances, its failure may expose people to unacceptable levels of contamination.

Breaches of the statutory requirements can result in prosecution and may also give rise to a civil suit against the operators.

This Policy sets out the detailed requirements for the maintenance and safe operation of all air conditioning and ventilation plant. These will be maintained so that they do not present a risk to persons either in the vicinity of the plant, in areas served by the plant, or a statutory compliance risk to NHS Lanarkshire (NHSL).

2. Aims, Purpose and Outcomes

2.1. Aims

NHSL is committed to ensuring that all ventilation/air conditioning equipment is installed, inspected, serviced and maintained in accordance with all of the relevant legislation and guidance to ensure that such equipment does not pose a health or operational risk to either, staff, contractors, patients or visitors.

This document sets out NHSL framework for achieving compliance with the following legislation and guidance:

- Health and Safety at Work Act 1974
- Control of Substances Hazardous to Health (COSHH) Regulations 2002
- Scottish Health Technical Memorandum 03-01 'Specialised ventilation for healthcare premises'
- Building Regulations: Health & Social Care Act 2008
- Building Regulations: The Medicines Act 1968
- Building Regulations: Human Medicine Regulations 2012

The arrangements set out in this policy will ensure that NHSL meets its statutory obligations and operates within approved safety standards and codes of practice.

Implementation of this policy will:

- Ensure that ventilation equipment is suitable for its intended use and is maintained to satisfactory performance levels.
- Contribute to the overall infection prevention and control agenda within NHSL premises.
- Comply with health and safety legislation requirements.
- Maintain the health, comfort and environment for all patients, staff and visitors to NHSL by ensuring adequate heating, cooling and ventilation exists and it is fully functional.

2.2. Purpose

The purpose of this policy is to establish mandatory requirements for the management of ventilation systems.

Ventilation is provided in healthcare premises for the comfort and safety of the occupants of buildings. More specialised ventilation will also provide comfort but its

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prime function will be to closely control the environment and air movement of the space that it serves in order to contain, control and reduce hazards to patients and staff from airborne contaminants, dust and harmful microorganisms.

This Policy applies to all premises owned by NHSL and to all employees and contractors involved in the construction, management, design, upgrading, refurbishment, extension, maintenance and operation of ventilation plant and equipment.

3. Scope

This policy describes the roles and responsibilities of those involved in the design, management, operation, maintenance and testing of systems and the key associated activities. It applies to all properties owned and maintained by NHSL including properties leased, rented or occupied under lease or other occupancy agreement. It covers maintenance on all ventilation/air conditioning plant and associated installations (such as duct work and fire dampers) undertaken by the maintenance services department.

The Infection Control Committee (ICC) retain overall corporate management responsibility for management of ventilation within NHSL and this policy document, the vehicle through which this is implemented, is managed and maintained on their behalf by the NHSL Ventilation Assurance Group (VAG) and Acute Ventilation Safety Groups (AVSG(s)).

3.1. Who is the Policy intended to Benefit or Affect?

NHSL staff, patients, contractors, visitors and the local community.

3.2. Who are the Stakeholders?

NHSL staff, contractors, service users, carers and partner agencies.

“NHS Lanarkshire takes care to ensure your personal information is only accessible to authorised people. Our staff have a legal and contractual duty to keep personal health information secure, and confidential. In order to find out more about current Data Protection legislation and how we process your information, please visit the Data Protection legislation Notice on our website at www.nhslanarkshire.scot.nhs.uk or ask a member of staff for a copy of our Data Protection Notice.”

4. Principal Content

4.1 Definition

Environment, means the totality of a patient’s surroundings when in healthcare premises. This includes the fabric of the building and related fixtures, fittings and services such as air and water supplies.

Designated Person (DP)(V) - provides the essential senior management link between the organisation and professional support. The DP(V) should also provide an informed position at board level. They are also responsible for ensuring that there are sufficient and suitable resources available to enable all systems associated with ventilation systems are operated, maintained and repaired safely and effectively.

Ventilation - this is the means of removing and replacing the air in a space. In its simplest form this may be achieved by natural means by opening windows and doors etc. Mechanical ventilation systems provide a more controllable method of delivering a known quantity and quality of air. Basic mechanical systems consist of a fan and collection of distribution ductwork; more complex systems may include the ability to condition the air passing through them (Air Conditioning). Ventilation equipment may be required in order to remove smells, dilute contaminants and ensure that a supply of fresh air enters a space.

Air Conditioning - means the ability to heat, cool, humidify, dehumidify, and filter air. The climate within a space being supplied by an air conditioning plant shall be maintained to a specific level regardless of changes in the outside air conditions or the activities within the space. Air conditioning may be required in order to provide comfort cooling within a space.

Fire dampers - are fitted in the ventilation system where ducts pass through fire walls and barriers. There are two general types of dampers:

- Fusible link spring loaded dampers fitted to older buildings, which require heat from a fire to activate and will not stop smoke penetration prior to the fusible link activating the damper.
- Motor driven spring loaded fire dampers activated by the fire alarm system fitted to new buildings and are designed to stop smoke on fire alarm activation. These dampers will be subject to periodic servicing and testing and appropriate records kept.

Extract ventilation - is required in sanitary facilities, dirty utilities and rooms where odorous but non-toxic fumes are likely to be present.

Natural ventilation - is a term that generally refers to the natural movement of air through a building due to changes in air temperature and pressure between open doors and windows, although it is difficult to maintain consistent air flow rates and ensure that minimum ventilation will be achieved at all times.

Local Exhaust Ventilation (LEV) - these are bespoke ventilation systems that are used to prevent operatives from exposure to potentially harmful pollutants. Local Exhaust Ventilation (LEV) systems require testing every 14 months under the current Control of Substances Hazardous to Health Regulations (COSHH).

Critical healthcare ventilation systems (CHV) - These are systems the loss of which would seriously limit the delivery of healthcare, for example operating suite, NICU, critical care area, interventional imaging suite, aseptic suite.

CHV - Ventilation systems serving the following are considered critical under SHTM 03-01:

- Operating theatres of any type, including rooms used for investigations (for example catheter laboratories);
- Patient isolation facility of any type;
- Critical care, intensive treatment or high-dependency unit;
- Neonatal unit;
- Category 3 or 4 laboratory or room;
- Pharmacy aseptic suite;
- Inspection and packing room in a sterile services department;

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- MRI, CAT and other types of emerging imaging technologies that require particularly stable environmental conditions to remain within calibration;
- Any system classified as an LEV system under the COSHH Regulations.

Each site will identify what ventilation systems require assessment/verification according to the critical nature of areas that they serve. Some of these critical areas/plant are identified in Appendix 5.

Non-critical systems - Ventilation systems serving the following are considered Non-critical:

- Waiting rooms/areas
- General Wards/rooms; unless classified as Critical Isolation room
- Corridors.

Note: Ventilation systems that fall within the above definition are considered Non-Critical but not limited to.

4.2 Ventilation Systems

Ventilation is used extensively in all types of healthcare premises to provide a safe and comfortable environment for patients and staff. It is provided to help control airborne infection risks in areas such as operating departments, critical care facilities, isolation rooms and treatment areas.

It may also be installed to:

- maintain a suitable environment by removing odours and controlling temperature;
- ensure compliance with the quality assurance requirements of items processed in pharmacies and sterile services departments;
- protect staff from harmful organisms or toxic substances, for example in laboratories and anaesthetic rooms;
- contain the spread, and clear smoke as part of the fire strategy.

More specifically the COSHH Regulations provide a framework of actions designed to control the risk from a range of hazardous substances including biological agents. The essential elements of COSHH are:

- a) risk assessment and reassessment where conditions are known to change;
- b) prevention of exposure or substitution with a less hazardous substance if this is possible, or substitution of a process or method with a less hazardous one;
- c) control of exposure where prevention or substitution is not reasonably practicable;
- d) maintenance, examination and testing of control measures, e.g. automatic dosing equipment for delivery of biocides and other treatment chemicals;
- e) provision of information, instruction and training for employees;
- f) persons who work in an environment controlled by an air conditioning system;
- g) persons who might be exposed to aerosols which might contain viable organisms; and
- h) keep appropriate records.

Further duties and responsibilities fall under the Safety Representatives and Safety Committees Regulations, the Health and Safety (Consultation with Employees) Regulations and the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). Also The Control of Legionella Bacteria in Water Systems (L8), approved code of practice (ACOP) along with the associated guidance documents, HSG 274 parts 2 and 3 provides a basic framework for preventing further outbreaks of the disease, giving advice on the requirements of HSW Act.

In the event of a reportable incident connected with ventilation equipment or the area that it serves, copies of all records and plant logbooks may need to be collected as evidence. The requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) will apply.

4.2.1 Standards

Technical and performance guidance is set out in SHTM 03-01 'specialised ventilation for healthcare premises' and SHTM 2025 'older design for healthcare premises'.

In many existing systems, original design and commissioning information may not be available. It will therefore be necessary to determine a suitable level of system performance based on the function, purpose and age of the installation. Where performance does not meet current guidance there will be a gap analysis and risk assessment. These will be considered by both NHSL VAG and AVSG(s) for any further actions.

4.2.2 Design and Installation

The design and installation of new equipment is fundamental to the long term provision of suitable systems which will perform well over a 15 - 20year life span.

- All ventilation/air conditioning equipment shall be appropriate for the area it is being designed for;
- All ventilation/air conditioning equipment is to be designed and installed by suitably qualified personnel and complies with the requirements of SHTM 03-01 and other statutory legislation;
- Systems shall be designed to the highest standards in terms of energy usage to ensure that NHSL's carbon and sustainability agenda are not compromised;
- Cooling and/or air conditioning will only be installed in NHSL buildings where there is a specific patient imperative or where critical plant needs to be maintained within prescribed temperature parameters. Cooling in office areas is unlikely to meet this criterion;
- All installations should be easily accessible for maintenance and testing of all maintainable parts and components without the need for specialist access equipment and/or removal of building fabric and finishes;
- When new equipment is accepted for use, full information as to its designed mode of operation together with maintenance procedures is provided as part of the handover procedures and prior to system use;
- All new ventilation/air conditioning systems shall be commissioned and signed off by a qualified person to ensure that the specified standards above minimum standards set out in SHTM 03-01 are achieved;

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- The users and those who maintain the system need to be instructed in its safe operation and how to provide the correct environmental conditions as part of the handover procedure at the end of the commissioning period.

4.2.3 Maintenance

All existing ventilation/air conditioning systems shall be inspected and verified at the agreed SHTM guidance level. For Critical Healthcare Ventilation Systems, this will be inspected quarterly and verified annually to ensure that the minimum standards are achieved including:

- Ensuring safe access when carrying out routine service and maintenance activities;
- preventing or controlling risks associated with Legionella and other potential hazards;
- checking that the system remains fit for purpose;
- maintenance procedures should be reviewed periodically to ensure that they remain appropriate;
- the degree and frequency of maintenance should relate to the function of the system, its location, its general condition and the consequence of failure;
- ventilation systems should be refurbished at their mid-life point (Typically 10 years after original installation) to maintain system efficiency;
- all ventilation systems should be provided with safe access for the purpose of carrying out routine servicing and maintenance activities.

4.2.4 Ventilation System Cleaning

Air handling units should be vacuumed-out and/or washed down internally as necessary to remove obvious dust and dirt. The plant must not contain any material or substance that could support the growth of microorganisms.

Chiller batteries, humidifier units, energy-recovery batteries or plates and their drainage systems should be inspected annually and cleaned as recommended to remove visible contamination. Precautions should be taken to ensure no pooling of water is has taken place prior to returning the unit to service as this will lead to proliferation of micro-organism leading to potentially harmful water/airborne diseases.

Supply air distribution ductwork conveys air that has been filtered. It will require internal cleaning only when it becomes contaminated with visible dirt. The frequency of cleaning will depend on the age of the system and grade of the AHU final filter but will typically be in excess of ten years. There is no requirement to clean ductwork annually.

Split and cassette air-conditioning units incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. The systems should be inspected and cleaned every three months.

4.2.5 Inspection and Testing

All critical ventilation systems should be inspected quarterly and verified at least annually. In some circumstances the verification may need to be carried out more frequently.

The quarterly inspection should be a simple visual check; the annual verification will be a more detailed inspection of the system together with the measurement of its actual performance.

4.2.6 Annual Verification for Critical Ventilation Systems

All critical ventilation systems will be subject to an annual verification to ensure that the:

- System is still required;
- AHU conforms to at least the minimum standards to which it was installed;
- fire containment has not been breached;
- verification should also assess whether the general condition of the ventilation system is adequate, the fabric of the area served is satisfactory and the system performance is adequate with respect to the functional requirement.
- Annual verification will require the:
 - Full measure of the supply and extract air-flow rates;
 - calculation of room air-change rates if applicable;
 - measurement of room differential pressures if applicable;
 - measurement of room noise levels;
 - Air-quality checks if appropriate; and
 - A check on the control functions.
- The ventilation system should achieve not less than 80% (SHTM 03-01), or 75% (SHTM 2025) of the design air-change rate of its original design parameters.
- The pressure regime should achieve not less than 80% of the design value in SHTM 03-01, or 80% (SHTM 2025) of its original design parameters, and the pressure gradient relationships with regards to surrounding areas must be maintained.

A list of areas with critical ventilation plant can be found in Appendix 5.

4.2.7 Information

The following information shall be provided adjacent to the plant to which it refers:

- General information regarding the intended operation of the plant together with a schematic diagram of the equipment and its distribution system.
- Specific information as to the purpose of the plant and details of those departments and/or personnel that should be informed prior to switching off or carrying out maintenance activities.
- Specific information required for the safety of the personnel carrying out the service and maintenance activities.

4.3 Policy Statement

The policy objective is to reduce the risk of airborne contaminants as far as is reasonably practicable by ensuring the provision of safe systems through proper design, installation, operation and maintenance of air conditioning and ventilation systems.

In order to comply with the legal duties under the Health and Safety at Work etc., Act (1974) and the Management of Workplace Regulations (1999), and more specifically under the Control of Substances Hazardous to Health Regulations (2002), NHSL must ensure all air conditioning and ventilation systems are 'fit for purpose' and appropriately inspected, tested and maintained.

All staff that manage or operate air conditioning and/or ventilation systems for NHSL must be aware of their duties and responsibilities under this policy and its associated procedures.

This document indicates the requirements of NHSL; any derogation from the policy must be documented and agreed with the NHSL VAG and recorded in the ventilation log book. Failure to do this places the responsibility of the system on the individual deviating from the policy.

4.4 Change of Use Clinical and Non-Clinical Accommodation

In the case of changes to/or provision of new clinical space all works must be approved in advance by a relevant; Senior Clinician, Head of Planning & Development and the Deputy Director Projects & Assurance, PSSD who will confirm reference to all relevant Health Building Notes (HBNs), SHTM's, Legislative Guidance, Policies, strategic direction and planning etc. This is in an effort, as far as practicable, to eliminate any errors or omissions of essential equipment and infrastructure during completion of the change.

4.5 Risk Control Measures

Risk control measures and mitigations will be documented in the Ventilation Maintenance Plan within NHSL Computer Aided Facilities Management System (CAFM). It is the responsibility of the Maintenance Services Department to develop, implement and maintain. The ventilation management regime identifies specific ventilation management tasks to be completed on associated equipment. The schedule of work, identification of who is responsible for carrying out the various tasks and frequency rates of the specific ventilation management tasks are pre-set and are automatically generated by the CAFM System.

The Responsible Person (RP)(V) Ventilation or Deputy (DRP)(V) will appoint after assessment by the Authorising Engineer (AE)(V) Ventilation, the Authorised Persons (AP)(V) – Ventilation and their Deputy (CP)(V). The appointments will be confirmed in writing.

The AP(V) will manage the delivery of the tasks and duties described within the ventilation management procedures and will maintain accurate and comprehensive records of all work undertaken whilst managing ventilation systems. Any identified risks will be immediately reported back to the RP(V), Lead Infection Control Doctor and the Head of Infection Prevention and Control.

4.6 Training and Competence

Training will be supplied by an approved accredited supplier. Additionally, the AE(V) support and advise on the training within NHSL.

The training provided and any competency assessment will reflect the level of responsibility and involvement with Ventilation risk assessments, risk prevention and day to day management of ventilation systems. Staff training and competency records are kept and updated as part of NHSL policy.

4.7 Change to Site Plans

Any changes to the site plans that are made, including, but not limited to, change of use, fire strategy, ventilation, electrical and water safety will be communicated to the Technical Services Manager (CAD/ EAMS) to ensure the maintenance of site and building plans.

4.8 Record Management

Identified risks are logged and managed as part of the Maintenance Services risk management process in line with the procedures set out by NHSL Risk Management.

External assessment reports and associated documents are maintained by the Maintenance Services Department. All recommendations are reviewed and assessed for the purpose of implementation.

Work completed by maintenance staff is recorded on the CAFM system and descriptions of tasks are contained within the Preventative Planned Maintenance procedures and scheduling regime. Records should be kept for a minimum of five years.

Where ventilation plant is installed for units manufacturing medicinal products, there are specific requirements under the Medicines Act 1968 to maintain accurate records of plant performance, room conditions and maintenance events. Records should be kept for at least 25 years as part of a quality assurance audit trail.

Work completed on the ventilation system by maintenance staff, and/or NHSL contractors in accordance with the legislative approved codes of practice, guidance and relevant standards will be fully documented by the person completing the work. These records must then be given to the AP(V).

4.9 Reporting Structures

The required management structure and the necessary appointments to support the communication route and management of NHSL Ventilation Systems are shown in Appendix 1: - Management and Appointment Structure for the Management of Ventilation Systems.

In the event of an identified potential hazard there is a defined NHSL structure to ensure that the relevant departments can effectively investigate and manage the situation. The communication links within the structure are shown in Appendix 1.

The continuous monitoring of the effectiveness of policy and the management procedures for the management of ventilation systems is assessed by NHSL VAG. The reporting structure to Clinical and Corporate Governance is shown in Appendix 3 and 4.

Private Finance Initiative (PFI)/Hub Company communication and reporting involves the Special Purposes Vehicle (SPV) and the FM Provider, this is defined and lined in red within Appendix 1 and 2.

4.10 Implementation

A suitable and sufficient written annual verification report will be produced for each critical system that will identify and assess the non-conformities with critical ventilation systems and the rooms that they supply. The report shall be prepared and produced by the board appointed contractor on behalf of the AP(V) for those properties that NHSL retains the responsibility to manage the ventilation systems.

Each site will identify what ventilation systems require assessment/verification according to the critical nature of areas that they serve. Some of these critical areas/plant are identified in Appendix 5.

The AP(V) shall review and assess the written annual verification reports, produced by the board appointed contractor for properties for which the Health Board delegates its responsibility to manage the ventilation systems. This audit will be carried out on an annual basis. Upon the completion of audit, staff and/or their representatives will be consulted regarding the identified risks and the measures and actions taken to control these risks.

5. Roles and Responsibilities

All NHSL staff, suppliers and contractors who have any involvement in the use, supply or servicing of the ventilation systems have a responsibility for complying with the organisation's arrangements for safe ventilation management, including the implementation of local management controls. In order to comply with this policy, all staff, suppliers and contractors must be aware of the lines of communication and levels of responsibility, which exist to ensure that all matters of safe air management are dealt with effectively.

5.1. Accountabilities and Responsibilities

5.1.1. The Chief Executive (Duty Holder) is responsible for NHSL wide implementation of this policy, ensuring that sufficient resources are available to maintain and manage the safe operation of NHSL ventilation systems.

The Chief Executive shall delegate the responsibility for the overseeing the safe operation of the ventilation systems to the Executive Director Strategic Planning & Performance (Deputy Duty Holder).

5.1.2. The Executive Director; Director of Nurses, Midwives and Allied Health Professionals (NMAHPs) is responsible on behalf of the Duty Holder, for overseeing the development, implementation and management of infection prevention and control policies and setting the strategic direction of NHSL Board to ensure compliance with legislation and mandate.

5.1.3. The Executive Director (Deputy Duty Holder); Director of Planning, Property and Performance is responsible on behalf of the Duty Holder, for overseeing the safe operation and management of the ventilation systems and setting the strategic direction of NHSL Board to ensure compliance with legislation and mandate.

5.1.4. The General Manager PSSD (Designated Person) will on behalf of the Duty Holder manage the operational areas of the safe operation and management of the ventilation systems, Deputy chair of the VAG and directing the strategic requirements defined by the Duty Holders.

5.1.5. The Deputy Director PSSD (Operations) (Responsible Person) will be appointed as the RP(V) by the DP(V). This person has the responsibility for controlling and managing any identified risk associated with the safe operation and management of the ventilation systems.

5.1.6. The Deputy Director PSSD (Project and Assurance) is responsible for the management of the PFI contracts. Within each of the contracts, arrangements are in place for the management, monitoring and recording of contract performance. These arrangements will include the monitoring and reviewing issues associated with ventilation systems.

5.1.7. The Head of Infection Prevention and Control is the chair of the VAG and a member of Infection Control Committee (ICC). The Head of Infection Prevention and Control will advise on related infection control policy, procedures & current clinical practice and for;

- reviewing and updating this policy;
- to chair, or their nominated deputy, NHSL Ventilation Assurance Group
- providing Assurance to Executive Director that this policy has been implemented across all clinical areas;
- approving clinical procedures in specialist areas for specialist ventilation and environment; and
- providing specialist advice in relation to this policy and on related Infection Prevention and Control Policies.

They report directly to the NMAHPs.

5.1.8. The Site Directors/General Managers and Senior Managers

All Senior Managers are responsible for the implementation and monitoring of this policy within their specific area of responsibility, ensuring that:

- all accommodation is reviewed on a regular basis, in line with the guiding principles of ventilation outlined in this policy;
- risk assessments in relation to accommodation and health and safety in the workplace regulations are carried out, recorded and reviewed regularly;
- ventilation management procedures and safe working practices resulting from them are produced, documented & implemented for their area;
- the change of use of any space e.g. change of use clinical and non-clinical accommodation is reported to the Site AVSG.

Director of Hospital Services or Clinical Lead (or Representative) is the chair of AVSG and a member of VAG. The Director of Hospital Services will advise on related ventilation performance, policy, procedures and change to clinical practices.

5.1.9. The Authorising Engineer (Ventilation) will be appointed by the General Manager PSSD DP(V). This person will act as an independent professional advisor and make recommendations to the Duty Holder on the appointment of the DP(V), RP(V), Deputy Responsible Person DRP(V), AP(V) and Competent Persons CP(V), liaising with the DP(V). Additionally, the AE(V) may attend where required NHSL VAG and AVSG(s) meetings, and will monitor the performance of the service and provide an annual report to the NHS Board's DP(V).

The AE(V) will be responsible for:

- Having specialist knowledge of ventilation and air conditioning systems across NHSL estate, in particular the systems for which an AP(V) will assume responsibility on appointment;
- determining the required number of AP(V)'s and performing regular assessments of all AP(V)'s before recommending to the DP of the submitting organisation either that the person is able to proceed to written appointment or requires further training;
- ensuring that all AP(V) have satisfactorily completed an appropriate training course and that all training is documented;
- ensuring that all AP(V)'s are re-assessed every three years and have attended a refresher or other training course prior to such re-assessment;
- conducting an annual audit and review of the management systems of the Ventilation and air conditioning systems including Permit to Work and Standard Operating Procedures (SOPs), to be submitted for review by NHSL and its Partners in a timely manner;
- reviewing of written procedures and operational policies as well advising on changes in technology; and
- to assist the AP's (V), when required, with monitoring the implementation of the Ventilation Policy and SOP's.

The role shall be kept independent of organisations submitting potential AP(V)'s for assessment.

5.1.10. The Head of Maintenance Services, Deputy Responsible Person (Ventilation) will be appointed as the DRP(V) by the DP(V). The Head of Maintenance is the operational lead and will manage day-to-day maintenance operations, liaising with other services in areas such as Healthcare Associated Infection Systems for Controlling Risk in the Built Environment (HAI-Scribe), minor and major works and planned/reactive and corrective maintenance. Appointed by the RP(V) and responsible for ensuring:

- that the ventilation and associated systems of NHSL's premises are maintained to reduce the risk of Healthcare Associated Infection (HAI) and that appropriate systems and processes are in place for the effective performance and verification of ventilation systems;
- that all national guidance and accreditation processes are in place and evidenced;
- monitoring of planned preventative maintenance contracts relating to ventilation systems, including local exhausted ventilation & operating theatres; and

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- liaising with the user, and other technical support personnel, to enable them to discharge their responsibilities for management of decontamination effectively; and
- the acceptance criteria for operational and performance testing of all installed ventilation systems.

5.1.11. The Head of PFI/PPP is the operational lead and is responsible for the day-to-day management of the PFI contracts and will report on related ventilation performance, policy and procedures and is a member of the Site Acute AVSG(s) and VAG.

5.1.12. The Lead Infection Control Doctor is a member of the VAG, AVSG(s) and ICC. The Doctor will advise on related infection control policy and air quality issues.

All procedures written by the AVSG(s) must be endorsed by the VAG.

5.1.13. The Infection Prevention & Control Team (IPCT) is responsible for:

- Advise on monitoring infection control and microbiological performance of system;
- advise on any clinical procedures in specialist areas for specialist ventilation and environment;
- ensuring that all infection control processes are in keeping with current national guidance;
- interpret and advise on testing which is out of parameters or failure which may impact on usage of a ventilated area;
- representative will attend the AVSG and form part of its quorum;
- providing advice prior to the purchase of new equipment; and
- reviewing and updating this policy.

IPCT report directly to the Head of Infection Prevention and Control.

5.1.14. Maintenance Manager Authorised Person (Ventilation) reporting to the RP(V) as well as being responsible for the day to day safe operation and management of the ventilation systems within his area, this individual is appointed in writing as the single person with sole responsibility for the Written Schemes (Operational Maintenance Plans) for the individual ventilation systems under their control.

The AP(V) will be responsible for ensuring that:

- there are suitable and sufficient risk assessments and safe systems of work in place for all ventilation procedures and tasks;
- remedial action is taken, as required, when items of equipment are found and/or reported to be defective;
- all staff, under their control, receives appropriate training in relation to the duties they are required to undertake;
- prior to carrying out programmed maintenance which may affect the running of the ventilation system(s), the ward/department manager is informed to ensure clinical activity is not adversely affected;
- maintenance of records and document control related to ventilation systems;
- a safe and effective systems of work for all installed ventilation system within their area of responsibility;

and

Management of Ventilation Systems policy

- the acceptance criteria for operational and performance testing of all installed ventilation system;
- establish and maintain the roles and validation of CP(V) who may be the employees of the organisation or appointed contractors;
- maintain a register of all CP(V)'s for work on ventilation systems.
- defining the extent of the systems for which CP(V) are responsible.

5.1.15. Competent Person (Ventilation)

A CP(V) is approved and appointed in writing by an AP(V) for defined work, possessing the necessary technical knowledge, skill and experience relevant to the nature of the work to be undertaken who is able to accept a permit-to-work from an AP(V).

5.1.16. Project Managers/Design Groups will consult with an appointed external specialist with respect to ventilation and air conditioning systems and compliance as follows:

- All new and altered ventilation systems that shall comply with the requirements of documents series SHTM 03;
- and altered ventilation systems comply with the requirements of this policy, current regulations and guidance;
- reviewing and authorising the specification and the consulting engineer's competence and interpretation of the scheme requirements.

Ensuring that the:

- contractor's competence and their interpretation of the requirements are satisfactory;
- site engineer is competent in interpreting site conditions for the existing and new installation and subsequent commissioning requirements are satisfactory;
- Planning Supervisor is sufficiently experienced in ventilation work.

5.1.17. The Statutory Compliance Audit Risk Tool (SCART) Manager will undertake regular meetings and updates with service providers/contractors to ensure that actions arising from annual inspections are fully closed out. They will audit evidence of compliance to current regulations and policies and provide reports of continued compliance and raise issues of non-compliance as required to the VAG.

5.1.18. The User

The User is the person responsible for the management of the unit in which the ventilation system is installed (for example head of department, operating theatre manager, head of laboratory, production pharmacist, or other responsible person).

5.1.19. Theatre Manager/Periop Senior Nurse

Any maintenance activity with regards to the critical ventilation systems within NHSL will require to be agreed with the Theatre Manager and Periop Senior Nurse to ensure that there is minimal disruption to NHSL activities.

5.1.20. Control of Contractors

It is the policy of NHSL to secure a high standard of safety in all areas. All contractors/subcontractors **MUST** conduct their activities so the conditions and methods of work are safe for both their own and NHSL staff, and others who may be affected by their undertakings whether employed or not.

All contractors/sub-contractors will be required to comply with the requirements set out within the Management of Contractors Policy.

5.1.21. Staff

All staff have an individual responsibility for Ventilation Systems management in line with their duties and working environment. Each staff member of the organisation has an individual responsibility to:

- Co-operate with the organisations management in the implementation of this policy;
- report any poor management of Ventilation Systems to their supervisor/ manager; and
- to undergo appropriate training as required.

5.1.22. Acute Ventilation Safety Groups (AVSG(s))

The AVSG will manage this policy and their remit will be to assess all aspects of ventilation safety and resilience required for the safe development and operation of healthcare premises. It should inform the following areas:

- the design process for new healthcare premises;
- the design process for modifications to existing premises;
- the commissioning and validation process;
- operational management plan and maintenance;
- annual verification and performance testing;
- prioritising the plant replacement programme; and
- decommissioning and removal of redundant equipment.

The key tasks and membership of the AVSG can be found in the AVSG terms of reference.

5.1.23. Ventilation Assurance Group (VAG) is to ensure that NHSL operates safely with respect to the management of all air conditioning, ventilation (Critical & Non-Critical) plant and LEV systems. The VAG will act as a management assurance group ensuring that ventilation policy/procedures undertaken within NHSL encompass all statutory and regulatory requirements and all monitoring of standards of air quality including benefits, efficiencies and risks are evaluated to improve patient outcomes.

The VAG will oversee the AVSG compliance with NHSL's Ventilation policy and procedures and provide technical and operational guidance to the ICC and to all those responsible for, or involved in, Ventilation.

The key tasks and membership of the VAG can be found in the VAG terms of reference.

6. Resource Implications

This policy is primarily related to the safe provision of ventilation systems within NHSL. Failure to meet regulatory standards could lead to imposition of financial penalties, patient harm and reputational damage

Some additional training will be required to have the necessary responsible and competent people in place, but this is a statutory requirement.

7. Communication Plan

The policy will be communicated as follows:

- The interpreting and translating page on Firstport.
- Regular reminders in the staff briefing and toolbox talks.
- All Senior managers will be briefed on the policy.

8. Quality Improvement – Monitoring and Review

8.1. Monitoring

Arrangements for monitoring the effectiveness of this policy and compliance with SHTM 03-01 and associated legislation, for each site shall be put into place by the DRP(V)/Heads of Maintenance Services. In PFI Contracts, the Head of PFI/PPP will undertake this role.

Where monitoring identifies deficiencies, recommendations and action plans will be developed and any required changes implemented accordingly. The results of each monitoring exercise and progress on these actions will be reported to the AVSG.

To ensure the ventilation management policy is being applied appropriately the ventilation management regime is reviewed and monitored operationally by the SCART Manager. Checks will be carried out by;

- Compliance audits of documentation maintained by the AP(V);
- Checks to ensure that the monthly reports are being used to inform Maintenance Services when services are underutilised, relocated, altered or discontinued; and
- Reviews carried out on regular basis by the AP(s).
- Non-compliance issues and associated risks will be reported by Maintenance Services to the AVSG.

8.2. Audit

The NHSL VAG shall ensure that an annual audit is carried out on the ventilation management arrangements for each hospital site. The scope of the audit will be agreed by VAG.

NHSL AE(V) is commissioned under SHTM 03-01 Part B to carry out the annual audit.

8.3. Review

NHSL AVSG will carry out an annual review of the Property and Support Services Division management arrangements and make recommendations, where appropriate, to further develop the ventilation management strategy, and to facilitate continual improvement and good practice. The outcome of the review will be presented to the ICC and reported to the Chief Executive.

NHSL VAG will review this Policy every 3 years, or when circumstances dictate.

9. Equality Impact Assessment

NHS Lanarkshire is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds. This policy has been appropriately assessed.

This policy meets NHS Lanarkshire's EQIA



(tick box)

Document B has been completed and a copy has been sent to Hina.sheikh@lanarkshire.scot.nhs.uk

10. Summary or Frequently Asked Questions (FAQs)

There is no requirement for an FAQ's list to be read in conjunction with this Policy.

11. Archival of Documents

When a corporate policy is created by NHSL it becomes an official document and policies must be controlled within the principles for archiving, retention and destruction contained in Scottish Government circular.

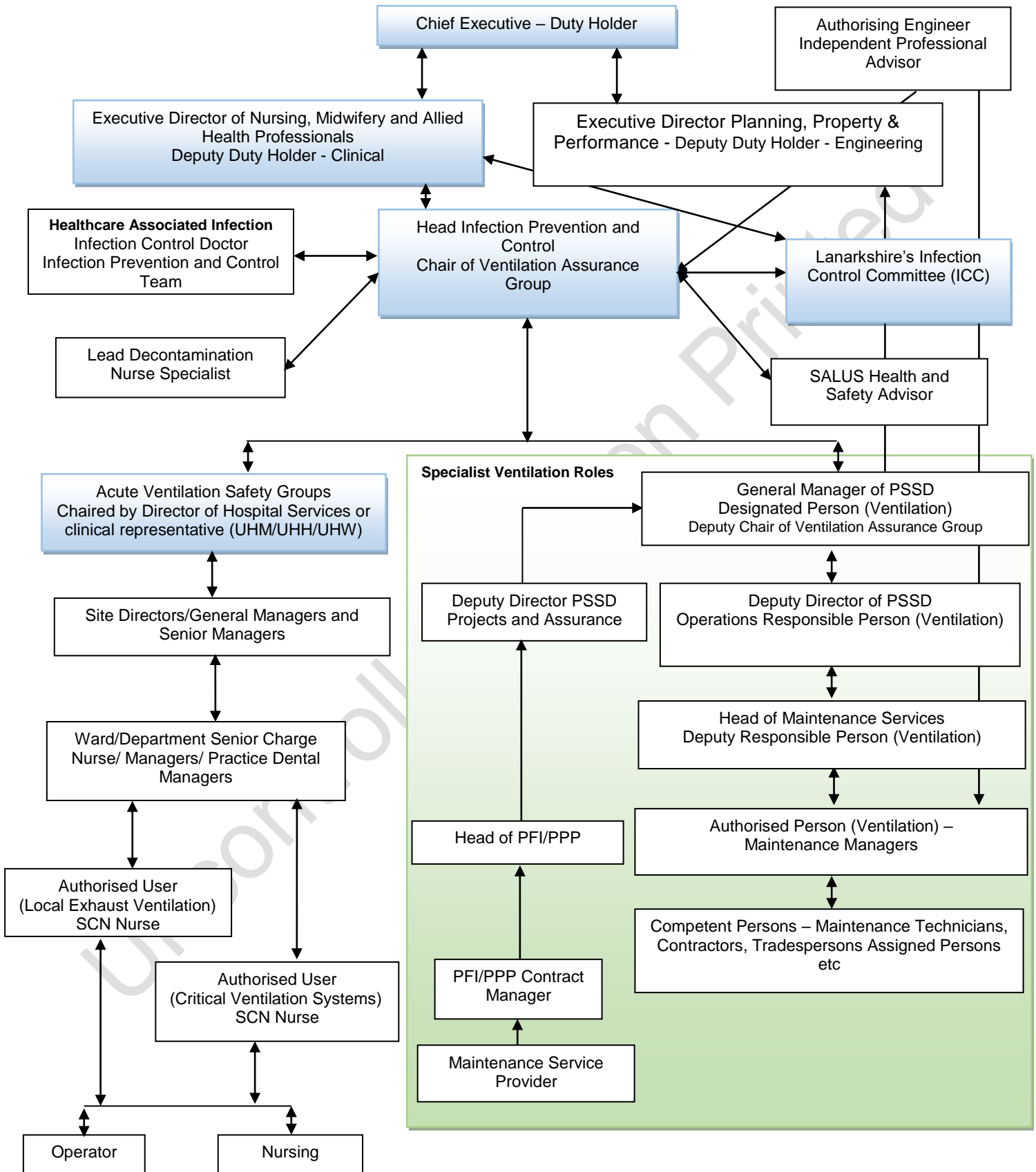
As an NHSL Board record, corporate policies must be retained permanently and will be managed through the Knowledge Services. The archive is kept within Firstport. Please email corporatepolicies@lanarkshire.scot.nhs.uk if you need access to any of the archived documents.

12. References

- a. Health and Safety at Work etc Act, 1974
- b. The Management of Health and Safety at Work Regulations,
- c. Control of Substances Hazardous to Health (COSHH) Regulations,
- d. Public Health (Infectious Diseases) Regulations,
- e. The Medicines Act 1968 Public
- f. Health (Infectious Diseases) Regulations 1988
- g. NHS HDL (2005) 08 Infection Control Organisational Issues,
- h. NHS HDL (2001) 53 Managing the Risk of Healthcare Associated Infection in NHSScotland,
- i. NHSScotland National Infection Prevention Control Manual Health Protection Scotland,
- j. The Fire Safety (Scotland) Regulations 2006,
- k. Provision and Use of Work Equipment Regulations 1998
- l. Personal Protective Equipment at Work Regulations 1992
- m. Workplace (Health, Safety and Welfare) Regulations 1999
- n. Health and Safety (Safety Signs and Signals) Regulations 1996
- o. Manual Handling Operations Regulations 1992
- p. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
- q. SHTM 00 - Best Practice Guidance for Healthcare Engineering
- r. HTM 2025 Ventilation in healthcare premises
- s. SHTM 03-01-part A& B Specialised ventilation for healthcare premises
- t. SHTM 04-01 part A & B - The control of Legionella in healthcare premises
- u. SHTM 08-01 – Specialist Services - Acoustics
- v. HTM 05-02 – ‘Guidance in support of functional provisions for healthcare premises’.
- w. HSE ACOP L8 - The Control of Legionella bacteria in water systems
- x. HSG274 – Legionella Control parts 1, 2 and 3
- y. HSG258 Controlling airborne contaminants at work: A guide local exhaust ventilation (LEV) 2011
- z. Electricity at Work Regulations 1989
- aa. BS7671 IET Wiring Regulations (18th Edition)
- bb. The Building (Scotland) Regulations 2004
- cc. Scottish building standards technical handbook 2020
- dd. Heating and Ventilating Contractors’ Association (HVCA), SFG20
- ee. IMS131 Water Management Policy
- ff. NHSL Control of Infection Manual
- gg. Fire Safety Policy
- hh. Management of Contractors Policy
- ii. Building Regulations: Health & Social Care Act 2008
- jj. Building Regulations: The Medicines Act 1968
- kk. Building Regulations: Human Medicine Regulations 2012

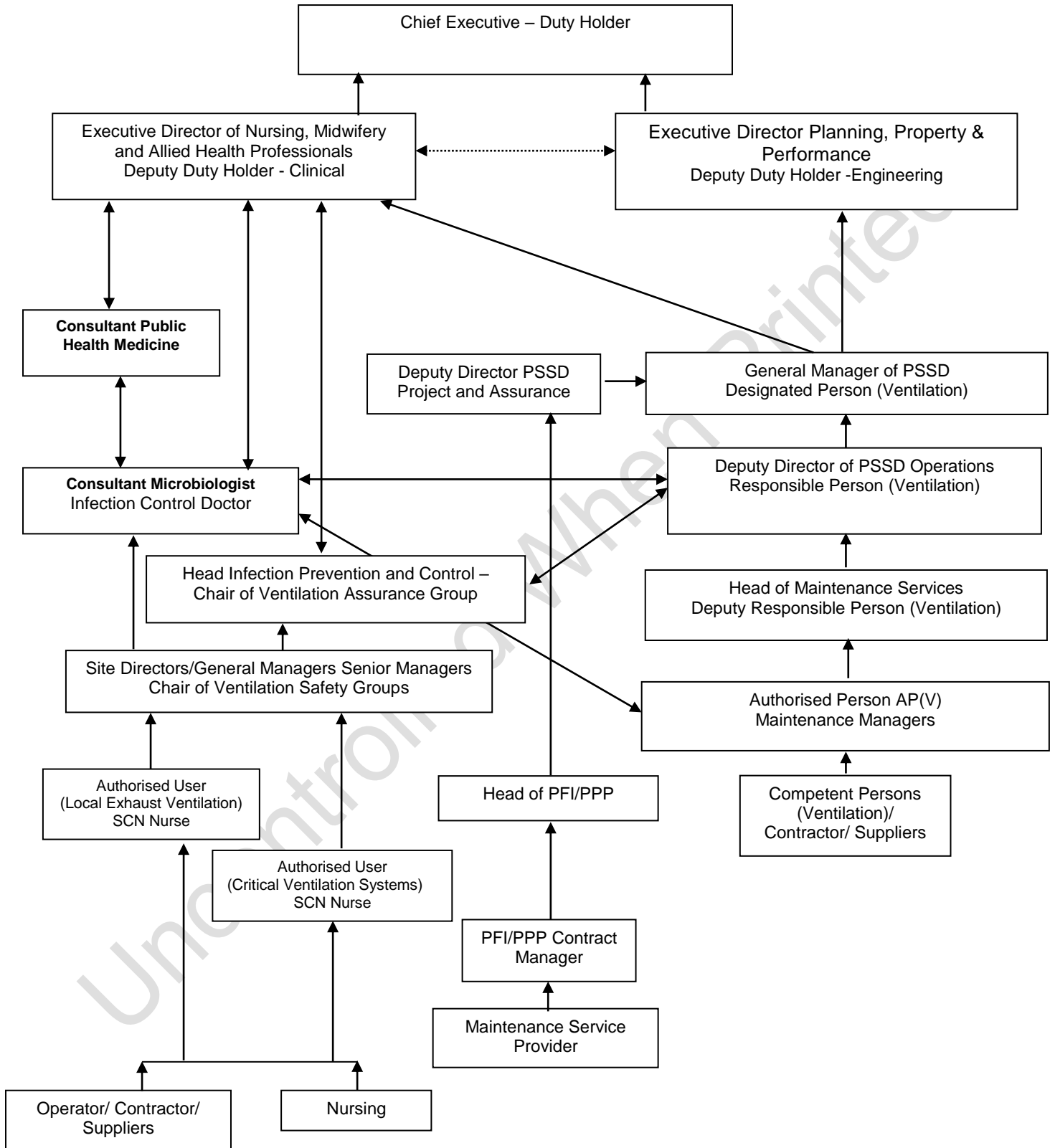
Appendix 1

Management and Appointment Structure for the Management of Ventilation Systems

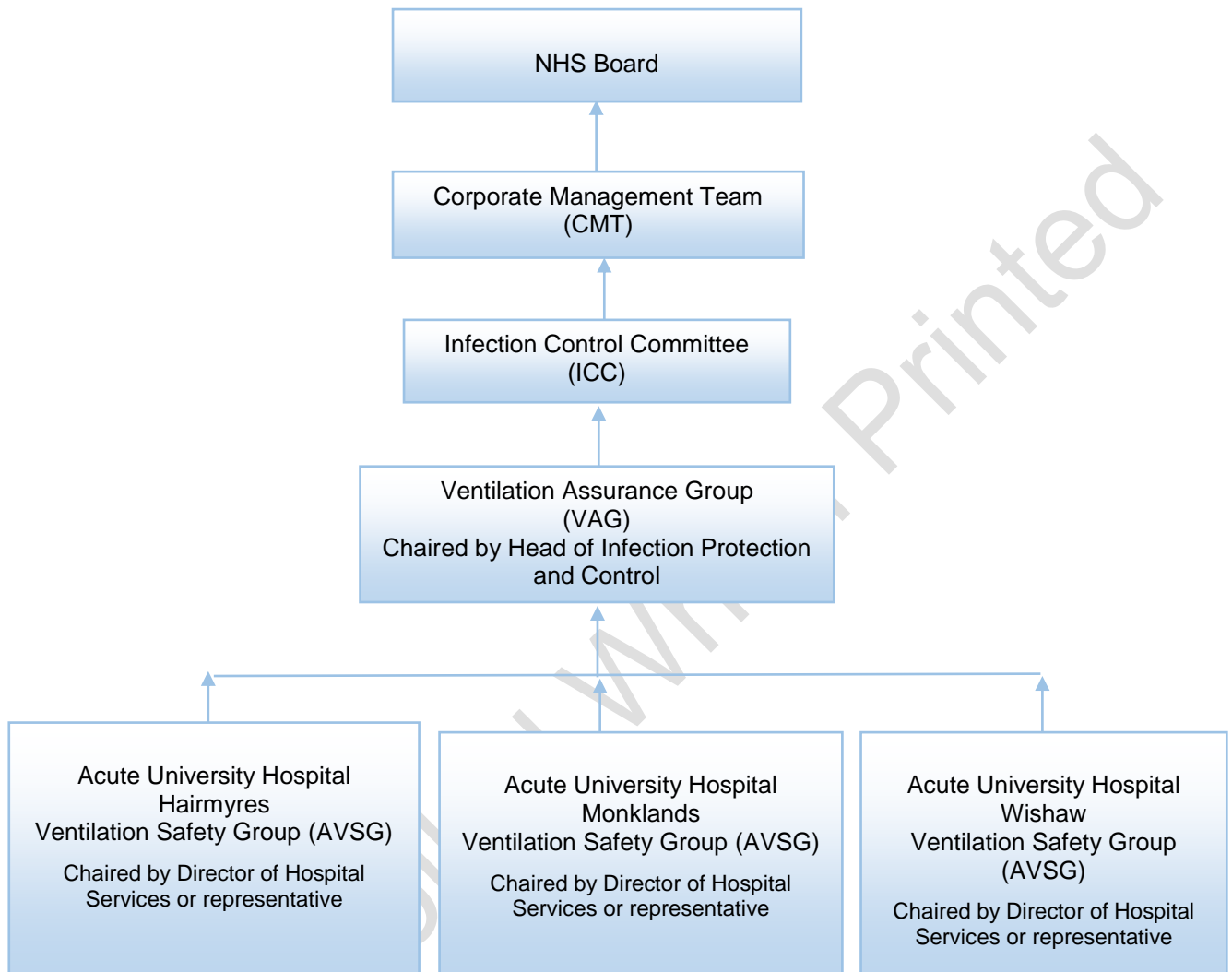


Appendix 2

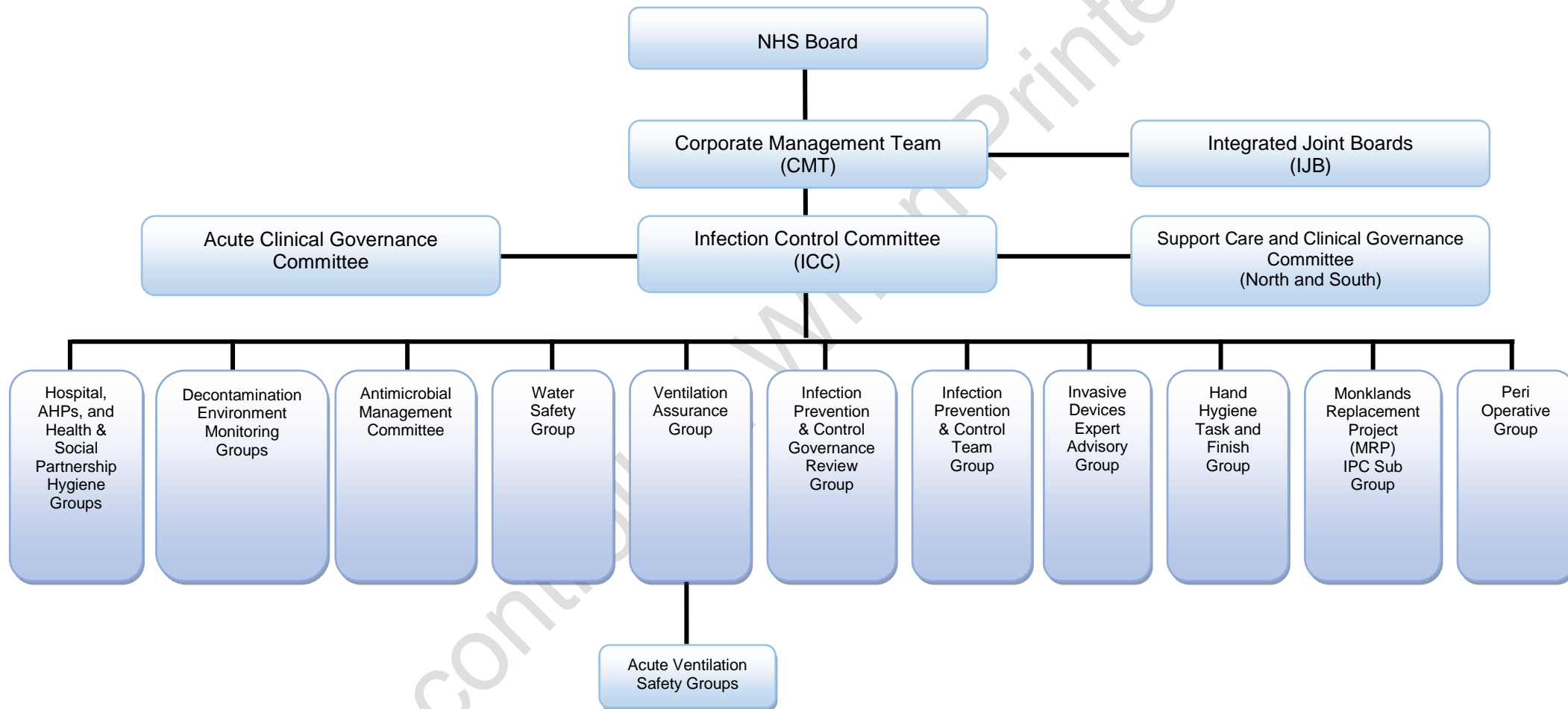
Escalation and Communication Structure for the Identification of a Potential Hazard



Appendix 3
Clinical Group Governance



**Appendix 4
Clinical Corporate Governance**



Appendix 5

List of areas/departments requiring critical ventilation systems

- All operating theatres including UCV systems
- Intensive Care Unit
- Isolation Rooms
- Endoscopy
- Special care baby unit (SCBU) including delivery rooms
- All imaging rooms (including X-Ray department and MRI)
- Hospital Sterilisation and Disinfection Unit (**HSDU**)
- Mortuary
- Aseptic Suite
- Cardiac catheter lab
- Coronary care
- Urology
- Certain procedure rooms to be confirmed
- Pathology Category 3 rooms
- Burns Unit
- All Covid-19 patient treatment areas (Ventilation is one of many mitigations against the virus and should be part of a package of infection prevention and control measures)

The above list is not definitive.