SPECIALISED VENTILATION FOR HEALTHCARE PREMISES OPERATIONAL MANAGEMENT POLICY

Originator: Operations		**Policy ID:**	**Draft Version 3**
Approved by: Ventilation Sub-Group			**January 2021**
Approved by:			
Date:		**Review date:**	**January 2024**

CONTENTS

1 INTRODUCTION

1.1 Ventilation is used extensively in Healthcare premises to closely control the environment and air movement of the space that it serves. This is for both the comfort of occupants in buildings and to contain, control and reduce hazards to patients, staff and visitors from airborne contaminants including, dust and harmful micro-organisms.

1.2 This policy sets out the detailed requirements for the maintenance and safe operation of all **specialised** 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 the Swansea Bay University Health Board

2 SCOPE

2.1 This policy applies to all staff, service users and contractors associated with the Health Board. Those persons with defined responsibilities should read this policy.

2.2 This policy covers all maintenance activities on **specialised** ventilation and air conditioning plant within the Health Board, and any sites which the Health Board is responsible for the maintenance of ventilation equipment. This will include, but not limited to, local room extraction plants up to full air handling and conditioning systems.

2.3 This policy document cannot anticipate all eventualities; therefore professional judgment should be used to identify the appropriate course of action needed.

2.4 The on-going risk management process will enable those involved, namely, the Designated Person Ventilation, Authorised Person Ventilation **(AP(V)),** Competent Persons **(CP(V))** and Infection Prevention Control Team to identify the level of vulnerability and risks posed to individuals; including service users, staff members and visitors, thereby ensuring appropriate action will be taken.

3 AIMS AND OBJECTIVES

3.1 This policy requires that all ventilation and air conditioning equipment is installed, inspected, serviced and maintained in accordance with all Statutory regulations, NHS Guidelines and Welsh Health Technical Memorandums (WHTM) to ensure that such equipment does not pose a health or operational risk to either, staff, patients or visitors.

4 DEFINITIONS

4.1 Health & Safety Executive (HSE)

4.2 Welsh/-Health Technical Memorandum (WHTM/HTM)

4.3 Approved Code of Practice (ACoP)

4.4 Health and Safety at Work Act 1974 (HSWA)

4.5 Control of Substances Hazardous to Health 2002 (COSHH)

4.6 Regulatory Fire Reform Order 2005 (RRO)

4.7 Specific Requirements under the Medicines Act 1968 (SRMA)

4.8 Senior Operational Manager (SOM)

4.9 Ventilation management Subgroup (VMS)

4.10 Authorising Engineer Ventilation (AE(V))

4.11 Authorised person ventilation (AP(V))

4.12 Competent person ventilation (CP(V))

4.13 Specialised Engineering Services **(NWSSP** - SES)

4.14 Terms of Reference (TOR)

5 FUNCTIONAL RESPONSIBILITIES AS PER HTM 03-01B

5.1 **Duty Holder** - The Chief Executive of SBU Health Board has the ultimate management responsibility for ensuring that an effective policy for managing ventilation for healthcare premises is in place and to ensure that arrangements are in place for operations to be conducted only by Authorised or approved personnel.

5.2 **Designated Person** – **The Chief Operating Officer** provides the essential management link between the organisation and professional support. The Designated Person should also provide an informed position at Board level.

The Designated Person, on the recommendation of the AE(V) will appoint AP(V)'s in writing

5.3 **Senior Operational Manager** (SOM) - The Assistant Director of Operations - Estates and **support from the Assistant Director of Strategy - Capital** take operational and professional responsibility for a wide range of estates services within the Health Board. As such they provide service-specific professional support which promotes and maintains the role of "informed client" within the

Health Board with respect to operational maintenance and also capital development.

The SOM is the person appointed due to the nature of their position to devise and manage the necessary procedures to meet the requirements of associated legislation and guidance adopted within this policy, thus maintaining the quality of the air supply in Healthcare premises for which they are responsible.

5.4 **Ventilation Safety Group (VSG)** – The purpose of the VSG is to oversee the management of the ventilation systems **within** the Health Board, ensuring the Board meets its statutory obligations with regard to ventilation maintenance within its premises. This is a multidisciplinary group whose remit will be to assess all aspects of ventilation safety and resilience required for the safe development and operation of healthcare premises.

The roles and responsibilities of the group are to:

- To oversee the formulation of ventilation management policies and procedures for properties within the Health Board
- The issues of resilience and diversity are addressed.
- To monitor the development of the Health Board's ventilation system risk assessments
- To provide an annual assurance report to the Health and Safety Committee on the management of ventilation systems within Health Board
- To provide a forum to discuss ventilation systems issues
- To monitor the department's progress in addressing audit action plans in relation to ventilation management
- To ensure the effective inspection, verification and maintenance of ventilation systems.
- More detailed information is given on the commissioning process.
- Developing an effective training programme across all levels of the estates department.

The key tasks and membership of the VSG can be found in the Ventilation Terms of Reference.

5.5 **Authorising Engineer Ventilation** – The AE(V) is defined as a person designated by management to provide independent auditing and advice on ventilation systems and to review and witness documentation on validation and will advise the DP(COO) as to the recommendation of the appointments of AP(V)'s in writing

5.6 **Performance Standards Engineer –** This role will be undertaken by Shared Services who will carry out annual **verifications** and periodic testing on critical ventilation plant in hospitals upon request from the relevant Estates Department.

5.7 **Authorised Person Ventilation** - ~~The AP(V) will be an individual possessing adequate technical knowledge and having received appropriate training, appointed in writing by the Designated Person (in conjunction with the advice provided by the AE(V)), who is responsible for the practical implementation and operation of management's safety policy and procedures relating to the engineering aspects of ventilation systems.~~ The Estates Managers are responsible for the maintenance of the ventilation plant within their estate. Their role is to ensure that the maintenance is completed in accordance with the recommendations of ~~W~~HTM and that AP's are in place to oversee the day to day management of these services.

5.8 **Competent Person Ventilation** - The CP(V) is defined as a person designated by management to carry out maintenance, **validation and periodic testing** on ventilation systems.

5.9 **Infection Prevention Control Team (IPCT)** - The Infection Prevention representative (or **co-opted** Consultant Microbiologist if not the same person) is the person nominated by management to advise on monitoring the infection control policy and microbiological performance of the systems.

Major policy decisions should be made through an infection control committee. The infection control committee should include representatives of the user department and estates and facilities or their nominated representative (that is, the Authorised Person).

5.10 **Maintenance** – Are those staff from the Estates Department who operates or works on A/C plant other than the CP(V).

5.11 **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, head of research or other responsible person).

5.12 **Contractor** - ~~The Contractor could also be responsible for some, if not all the maintenance of the plant and must meet HVCA (Heating & Ventilation Contractors Association) standards.~~ The Contractor where appointed is responsible for the maintenance of the ventilation plant in accordance with the contract specification which will reflect the requirements of both the ~~W~~HTM and the HVCA (Heating & Ventilation Contractors Association) Operational Standards.

5.13 **Records** - A record should be kept of those appointed to carry out the functions listed above. The record should clearly state the extent of the post holder's duties and responsibilities, and to who they are to report.
Substitute or replacement staff should be designated in order to cover for sickness, holidays and staff transfers.

5.14 **Training** - Routine inspection and maintenance procedures can cause risks to the health of staff carrying out the work and those receiving air from the plant. All those involved should be made aware of the risks, and safe systems of work should be agreed. Suitable safety equipment should be provided as necessary, and training in its use should be given.

The Health Board strive to deliver training to staff and records of training will be kept on personal files.

Training in the use of safety equipment and a safe system of work will need to be repeated periodically in order to cater for changes in staff.

5.15 **Specific Health and Safety Aspects** - Staff engaged in the service and maintenance of extract ventilation systems from pathology departments, mortuaries, laboratories, source-protected isolation facilities and other areas containing a chemical, biological or radiation hazard may be particularly at risk. In these cases, the risk should be identified and assessed.

The means by which the system can be rendered safe to work on should be determined, and a permit-to-work on the system implemented.

Training in the exact procedures should be given to all staff involved.

Some healthcare facilities may contain specialised units that are subject to access restrictions (for example pharmacy aseptic suites). Estates or contract staff requiring access may need additional training or to be accompanied when entering the unit.

6 IMPLEMENTATION/POLICY COMPLIANCE

6.1 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 SES for the AP(V) for those properties that the Health Board 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 1.

The AP(V) shall review and assess the written annual verification reports, produced by SES relating to those 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

7 STANDARDS AND PRACTICE

7.1 **Design and Installation** - All new ventilation and air conditioning equipment will be designed, installed and commissioned by suitably qualified Engineers and Tradespersons. They will be compliant with the requirements of HTM 03-01 and other legislation; such as, the H**A**SWA, COSHH, ACoP L8, RRO and SRMA.

Such a system must be appropriate for the area for which it was designed and is only installed where absolutely necessary and by agreement with the Infection Prevention Control Team.

Where new ventilation systems are to be installed, the estates capital department will liaise with the operational estates department closely throughout the project. Any written derogations will have to be considered by the estates ventilation safety group and will only be authorized by the designated person ventilation, **with advice from the AE(V)**

Information for all new equipment, concerning its installation, designed mode of operation together with full details of maintenance procedures, **will** be provided as part of the commissioning process.

In areas undergoing refurbishment, advice will be sought from the Infection Prevention Control Team to determine the requirements of the existing ventilation and air conditioning systems. Where systems will not meet current HTM 03-01 standards, equipment will be upgraded or replaced.

7.2 **Standards** - Operational Standards applied during the design and installation of ventilation and air condition systems will not to be reduced during the operation and life of the equipment. This will be evidenced through the use of planned maintenance records held within the estates department **and on the electronic helpdesk system.** Assessment of the suitability of older ventilation systems shall be made with the assistance of the AE(V) and the Infection Prevention Control Team. **Those units that are identified as failing to meet the standard required should be prioritised according to their ability to meet the standards and life of the plant.**

7.3 M**aintenance** - All service and maintenance procedures shall conform to the principles set out in HTM 03-01, the plant and equipment manufacturers O&M manuals, **relevant** ACoP, (HTM) 04-01, **also HASAWA to include COSHH**

7.4 **Operational Procedures** - The following operational procedures shall be defined:

- Differentiation between critical and non-critical plant.
- The safe plant start, run, set-back, restart and stop procedures, including minimum run up times to achieve desired operating conditions
- Frost protection sequence
- Arrangements for protecting and "mothballing" the plant if unused for extended periods, and to prevent it becoming a possible source of infection. To comply with COSHH and ACoP L8.
- Schedules of routine maintenance activities.
- Maintenance and routine inspections records shall be maintained **through the planet system**
- Details of the above and any specific risk assessments will be kept in the manual within the Estates Department.

7.5 **Information** - Maintenance and routine inspections records shall be maintained

for ventilation plant, and kept within the Estates Department and the **electronic helpdesk system**

For the safety of contractors and maintenance staff the following information **should** be provided **if required**:

- General information regarding the intended operation of the plant together with a schematic diagram of the equipment and its distribution system.
- Information concerning the purpose of the plant and details of those departments and/or personnel served by the plant and who should be informed prior to switching off or carrying out maintenance activities **(This can be discussed at the VSG Meeting).**
- Information required for the safety of the personnel carrying out the service and maintenance activities.

These procedures set out a frequency of tests, appropriate recording sheets and guidance. All maintenance will conform to the principles set out in HTM03-01, HTM04-01 **and ACoP L8/HSG274 , as well as following the procedures laid out in the Water Safety Plan, as appropriate.**

7.6 Maintenance Tasks

7.6.1 **Ventilation System Plant Inspections** - All ventilation systems will be subject to **quarterly** and annual preventative maintenance inspections/checks, **in line with the HTM** these PPM's can be accessed from the electronic data base **Critical plant will have monthly inspections where it is felt appropriate**.

7.6.2 **Annual Verification for Critical Ventilation Systems** - All critical ventilation systems will be subject to an annual verification to ensure:

- The ventilation system should achieve not less than 75% of the design air-change rate of its original design parameters. Old design parameters based on plant age can be obtained from HTM 2025 **and HTM 03-01 Part A.**

- The pressure regime should achieve not less than 75% of the design value in HTM 03-01 part A Appendix 2, or its original design parameters, and the pressure gradient relationships with regards to surrounding areas must be maintained. Old design parameters based on plant age can be obtained from HTM 2025 **and HTM 03-01 Part A**

- The sound levels quoted in HTM 03-01 Part B Table 2 are maximum permissible levels and should not be exceeded. Measurements should be made using at least a Type 2 sound meter fitted with a muff. Its accuracy should be checked using a calibration sound source before use.

- A list of areas with critical ventilation plant can be found in **Appendix 1.**

7.6.3 **Further Guidance** – HTM 03-01 Part B paragraphs 4.19 to 4.28 are followed as appropriate for:

- Vertical ultra-clean operating theatres.
- Horizontal ultra-clean operating theatres.
- Category 3 and 4 laboratories.
- Pharmacy aseptic suites.
- Sterile Service packing and inspection rooms.
- LEVs.

7.6.4 **Filter Changing** - Filters should be changed immediately if they become wet, microbial growth on the filter media is visible, or when filters collapse or become damaged to the extent that air bypasses the media. The routine changing of filters should be carried out when the manometer across the filters reaches the designed change limit. For those filters fitted without manometers or pressure differential switches then a regular inspection should be carried out to assess the condition of the filter and to determine whether the filter requires changing. Suitable records of filter changes will be kept. **Sufficient replacement filters should be available at all times**

7.6.5 **Frost Protection** – Health Board ventilation systems will have frost protection in the event of very low outside air temperatures or plant faults. The protection works by detecting the air temperature after the frost/fog coil; should the air temperature be equal to or below 3^0C, the plant will stop and the frost/fog coil will open fully. The plant will then not start again until reset; this reset will only happen once it is operationally safe to re-start the plant and no risk of coil failure exists.

7.6.6 **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. **Where it is not possible to access these dampers further tests may be required to ascertain their efficacy in the event they are called to close.**

7.6.7 **Ventilation Supply and Extract Grill Cleaning** - The ventilation supply and extract grills are to be cleaned regularly to ensure that dust does not build up. Currently the grills are cleaned on an annual basis, which includes the cleaning of both supply and extract grills in the clinical areas.

8 REFERENCES

- HTM 03-01 Parts A and B.
- HTM 04-01.
- Approved Code of Practice L8.
- Health and Safety at Work Act 1974.
- Control of Substances Hazardous to Health 2002.
- Regulatory Fire Reform Order 2005.
- Specific Requirements under the Medicines Act 1968.
- WHTM 00: Policies and Principles of Healthcare Engineering.
- Any other relevant guidance and legislation.

9 EQUALITY IMPACT ASSESSMENT

Approved via the Health & Safety Committee, as part of the policy for the production, consultation, approval, publication and dissemination of strategies, policies, procedures and guidelines 20 April 2011.

All Public Sector bodies have a legal duty to undertake an equality impact assessment (EqIA) as a requirement of the equality legislation.

EqIA's provide a systematic way of ensuring that legal obligations are met and are a practical means of examining new and existing policies and practices to determine what impact they may have on equality for those affected by the outcomes.

The process itself ensures that individual staff, managers and teams think carefully about, and record, the likely impact of their work on staff, patients and other members of the community.

The need for collection of evidence to support decisions and for consultation mean the most effective and efficient EqIA is conducted as an integral part of policy development, with the EqIA commenced at the outset.

The documentation consider the effects that decisions, policies or services have on people on the basis of their gender, race, disability, sexual orientation, religion or belief, age, Welsh Language and human rights. Assessing impact across a broad range of equality dimensions (not just those required by law) helps organisations to embed equality and human rights and assist them in the delivery of their services.

Policies will not be approved by the Board/Sub Committee of the Board without a completed EqIA Report.

For further information or advice contact the Diversity, Equality & Standards Manager.

Form 1: Preparation

Part A must be completed at the beginning of a Policy/function/strategy development or review, and for every such occurrence. (Refer to the Step-by-Step Guide for additional information).

Step 1 – Preparation		
1.	**Title of Policy** - what are you equality impact assessing?	Specialised Ventilation for Healthcare premises Operational Management Policy
2.	**Policy Aims and Brief Description** - what are its aims? Give a brief description of the Policy (The What, Why and How?)	Safe management of ventilation in compliance with relevant guidance and legislation.
3.	**Who Owns/Defines the Policy?** - Who is responsible for the Policy/work?	Estates Department.
4.	**Who is Involved in undertaking this EqIA? -** Who are the key contributors and what are their roles in the process?	Operational Managers, Authorised Person and Authorising Engineer.
5.	**Other Policies** - Describe where this Policy/work fits in a wider context. Is it related to any other policies/activities that could be included in this EqIA?	Stand alone to cover all aspects of ventilation Systems in Healthcare premises.
6.	**Stakeholders** - Who is involved with or affected by, this Policy?	All Estates staff or managers who have to work with ventilation Systems and Infection Control staff.
7.	**What might help/hinder the success of the policy?** These could be internal or external factors.	The Policy will be successful providing all staff adheres to it.

Form Two – Information Gathering

Is the policy relevant to the public duties relating to each equality strand? Tick as appropriate.							
	Race	Disability	Gender	Sexual Orientation	Age	Religion Belief	Welsh Language
Is the policy relevant to "eliminating discrimination and eliminating harassment?"	NO	NO	NO	NO	NO	NO	NO
Is the policy relevant to "promoting equality of opportunity?"	NO	NO	NO	NO	NO	NO	NO
Is the policy relevant to "promoting good relationships and positive attitudes?"	NO	NO	NO	NO	NO	NO	NO
Is the policy relevant to "encouragement of participation in public life?"	NO	NO	NO	NO	NO	NO	NO
In relation to disability, is the policy relevant to "take account of difference, even if it involves treating some individuals more favourably?	NO	NO	NO	NO	NO	NO	NO

The Human Rights Act contains 15 rights, all of which NHS organisation have a duty to act compatibly with and to respect, protect and fulfil. The 7 rights that are particularly relevant to healthcare are listed below. For a fuller explanation of these rights and other rights in the Human Rights Act please refer to Appendix A: The Legislative Framework. Consider the relevance of your Policy to these Human Rights and list any available information to suggest the Policy may interfere with, or restrict the enjoyment of these rights.
The right to life *N/A*
The right not be tortured or treated in an inhuman or degrading way *N/A*
The right to liberty *N/A*
The right to a fair trial *N/A*
The right to respect for private and family life, home and correspondence *N/A*
The right to freedom of thought, conscience and religion *N/A*
The right not be discriminated against in relation to any of the rights contained in the Human Rights Act *N/A*

Equality Strand	**Evidence Gathered**
Race	*N/A*
Disability	*N/A*
Gender	*N/A*
Sexual Orientation	*N/A*
Age	*N/A*
Religion or Belief	*N/A*
Welsh Language	*N/A*

Form 3: Assessment of Relevance and Priority

Equality Strand	Evidence: Existing evidence to suggest some groups affected. Gathered from Step 2. (See Scoring Chart A)	Potential Impact: Nature, profile, scale, cost, numbers affected, significance. Insert one overall score (See Scoring Chart B)	Decision: Multiply 'evidence' score by 'potential impact' score. (See Scoring Chart C)
Race	1	0	0
Disability	1	0	0
Gender	1	0	0
Sexual Orientation	1	0	0
Age	1	0	0
Religion or Belief	1	0	0
Welsh Language	1	0	0
Human Rights	1	0	0

Scoring Chart A: Evidence Available

3	Existing data/research
2	Anecdotal/awareness data only
1	No evidence or suggestion

Scoring Chart B: Potential Impact

-3	High negative
-2	Medium negative
-1	Low negative
0	No impact
+1	Low positive
+2	Medium positive
+3	High positive

Scoring Chart C: Impact Decision

-6 to -9	High Impact (H)
-3 to -5	Medium Impact (M)
-1 to -2	Low Impact (L)
0	No Impact (N)
1 to 9	Positive Impact (P)

FORM 4: (Part A) Outcome Report

Policy Title:	Specialised Ventilation for Healthcare Operational Management Policy
Organisation:	Swansea Bay University Health Board
Name: **Title:** **Department:**	
Summary of Assessment:	This Policy has been subject to a full equality assessment and no impact has been identified.
Decision to Proceed to Part B Equality Impact Assessment:	No Please record reason(s) for decision

Action Plan You are advised to use the template below to detail any actions that are planned following the completion of Part A or Part B of the EqIA Toolkit. You should include any remedial changes that have been made to reduce or eliminate the effects of potential or actual adverse impact, as well as any arrangements to collect data or undertake further research.					
	Action(s) proposed or taken	**Reasons for action(s)**	**Who will benefit?**	**Who is responsible for this action(s)?**	**Timescale**
What **changes** have been made as a result of the EqIA?					
Where a Policy may have differential impact on certain groups, state what arrangements are in place or are proposed to **mitigate** these impacts?					
Justification: For when a policy may have adverse impact on certain groups, but there is good reason not to mitigate.					
Describe any **mitigating actions** taken?					
Provide details of any actions planned or taken to **promote equality**.					

Date:	.....
Monitoring Arrangements:	
Review Date:	.....
Signature of all Parties:	....

10. TRAINING IMPACT ASSESSMENT

If training requirements are identified a policy training impact assessment is to be completed and forwarded to the Workforce and Organisational Development Directorate

- **Will training be required as a result of the policy?**

Yes	Proceed to question 2
No	If no, please state how this policy will be communicated within the UHB

- **Please complete the following information relating to training**

Course/ policy title	
Course type	
Reference to KSF/NMC Dimensions	
Target Audience (refers to scope of policy)	
Course / policy training objectives	
Course / policy training content	
Duration of course / programme	
Name of trainer (or policy lead)	
Approximate cost of providing training	
Please embed lesson plan, link to e-learning, presentation or other relevant learning material	

11 APPENDICES

APPENDIX 1

11.1 ~~Appendix 1~~ – List of areas/departments requiring critical ventilation systems

- All operating theatres including UCV systems
- Intensive Care Unit
- Isolation Rooms
- Endoscopy
- SCBU including delivery rooms
- All imaging rooms (including X-Ray department and MRI)
- HSDU
- Mortuary
- Aseptic Suite
- Cardiac catheter lab
- Coronary care
- Urology
- Certain procedure rooms to be confirmed
- Pathology Category 3 rooms
- Dental treatment rooms
- 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)
- Burns Unit

~~**APPENDIX 1**~~