ESTATES VENTILATION POLICY

Policy information

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Summary of document:
The aim of this Policy is to outline the necessary mandatory requirements for the management of Ventilation Systems installed within all Health Board premises. The HB attaches great importance to all Health and Safety aspects and its impact on patients, public and staff to ensure that it provides healthcare facilities safe and fit for purpose.

The Health Board will ensure that all ventilation/air conditioning units (AHU's), are installed, inspected, serviced, and maintained in accordance with all Statutory Instruments, NHS Guidelines, Welsh Health Technical Memoranda or similar, to ensure that such equipment does not pose a health or operational risk to either, staff, patients or members of the public.

Scope:
This policy applies to all premises owned or occupied by the HB where

Ventilation systems are installed and maintained. The policy covers the maintenance of all ventilation/air handling equipment within the Health Board, to ensure a safe environment for patients, staff and the public.

To be read in conjunction with:

- 144 – Operational Maintenance Policy (opens in a new tab)
- 341 – Prescription and Administration of Emergency Oxygen in adults
- 242 – Fire Safety Policy (opens in a new tab)
- 434 – Estates Medical Gas Policy (opens in a new tab)
- 232 – Manual handling Policy (opens in a new tab)
- 010 – Health and Safety Policy (opens in a new tab)
- 020 – Asbestos Policy (opens in a new tab)
- 186 – Business Continuity Planning Policy (opens in a new tab)

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Ventilation Safety Group
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Executive Director job title:
Andrew Carruthers-Director of Operations

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1 New Policy 22.4.2014
2 Revised 11.1.2017
3 Revised three yearly 10.1.2022
4 Revised 10.01.2024

Keywords
Ventilation, Air Handling Unit, Damper, Maintenance.

Glossary of terms

AE(V)	Authorised Engineer Ventilation
AHU	Air Handling Unit
AP(V)	Authorised Persons Ventilation
BMS	Building Management System
CEO	Chief Executive Officer
CFU	Colony Forming Units
COSHH	Control Of Substances Hazardous to Health
CP(v)	Competent Persons Ventilation
DFECM	Director of Facilities, Estates and Capital Management
DP	Designated Person
HB	Health Board
HCAI	Health Care Associated Infections
HDUHB	Hywel Dda University Health Board
HoO	Head of Operations
WWHTM	Welsh Welsh Health Technical Memorandum

IPC	Infection Prevention and Control
LEV	Local Exhaust Ventilation
O&M	Operations & Maintenance Manual
SOM	Operations Compliance Manager
PPM	Pre-Planned Maintenance
SOM	Site Operations Manager
SOM	Site Ops Managers
TVC	Total Viable Count
UCV	Ultra Clean Ventilated

Contents

Introduction

The Hywel Dda University Health Board, hereinafter referred to as the HB, acknowledges its responsibilities under the Health and Safety at Work etc. Act 1974 and supporting legislation relevant to this discipline, such as The Control of Substances Hazardous to Health (COSHH) Regulations 2000 and subsequent approved codes of practice such as L8 and published guidance documentation such as Welsh Health Technical Memorandum (WHTM) 03-01 Specialised Ventilation Systems for Healthcare Premises and WHTM 04-01, The Control of Legionella, to ensure that it meets the criteria and standards for Ventilation Systems within it's control.

Aim

The aim of this Policy is to establish mandatory requirements for the management of Ventilation and Ventilation Systems installed within HB's premises.

- The Policy has been developed to ensure compliance with existing legislation
- Helping ensure that good practice standards are applied to all ventilation systems in use within the organisation.
- The Policy will ensure the organisation complies with the law and fosters confidence amongst both public and staff that the organisation takes its responsibilities regarding maintenance of these systems seriously.

Objectives

This Policy will provide guidance to those responsible for the management of ventilation systems and will ensure that adequate liaison is established between key members of staff and persons with overall responsibility for maintenance management.

- Ensure that ventilation systems operate at optimum levels of performance.
- Maintain a clean and appropriate environment which facilitates the prevention and control of HCAI (Health Care Associated Infection) in a manner conducive to quality clinical care.
- Ventilation is provided in healthcare premises to improve air quality, reduce the spread of infections and for the comfort of the occupants of buildings. More specialised ventilation will also provide comfort but its 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 micro-organisms.
- The HB recognises its obligations to take necessary measures in the provision of effective maintenance of engineering plant, systems and services.

Main body

Maintenance of ventilation systems

All ventilation air handling units (AHU), plant, ductwork and systems shall be included in the planned preventative maintenance (PPM) system.

Inspections and maintenance shall be carried out in accordance with the following:

- Heating and ventilation systems Welsh Health Technical Memorandum 03-01 specialised ventilation for healthcare premises Part A & B.
- Health and Safety Commission's Approved Code of Practice and guidance document 'Legionnaires' disease; the control of Legionella bacteria in water systems' (L8).

- Welsh Health Technical Memorandum 04-01 ‘The control of Legionella, hygiene, ‘safe’ hot water, cold water and drinking water systems.
- Manufactures Operation and Maintenance (O&M) Manuals.
- CIBSE Guides
- Relevant Health and Safety Executive regulations and guidance

All ventilation systems to be subject to a minimum visual inspection annually in accordance with the guidance given in WHTM 03-01 part A and B, the purpose of the inspection are to establish that:

- The system is still required.
- The AHU conforms to the minimum standards.
- That fire containment has not been breached.
- The general condition of the system is adequate and operates in a satisfactory manner.

Ventilation systems servicing critical areas, such as theatres, patient isolation facilities, Intensive Care units, neonatal units and MRI units (a full list of critical environments is available in the WHTM 03-01 Part B) shall be inspected quarterly and their performance measured and verified annually and written reports held in the Site Operations Manager’s (SOM) ventilation portfolio. Reference should be made on the condition of filters, heavy soiling, requiring more frequent tests.

The quarterly inspection should be as detailed in WHTM 03-01 Part A and B, simple visual check sheets associated with each quarterly inspection are to be completed and retained by the Health Board.

Examples of the check sheets are shown in WHTM 03-01 Part B. If minimum recommended flow rates and pressures are not being met, a detailed verification must be completed and remedial actions taken, as necessary to ensure that the system operates to at least the minimum acceptable standards recommended in WHTM 03-01 Part B.

Annual inspection forms for critical ventilation systems must be used and are identified in WHTM 03-01 Part B. Operating suite annual verification forms are held in WHTM 03-01 Part B.

All validation and verification reports on critical ventilation systems must be copied to the Authorising Engineer Ventilation (AE(V) for their information and review.

Permits to work will be required when isolating critical ventilation systems for carrying out routine inspections, for confined space access or isolating of fire alarm services.

Ventilation Surveys and Risk Assessments

The SOM and their nominated deputies will be responsible for the monitoring and arranging of ventilation surveys and risk assessments with the appointed contractors as and when deemed necessary. The AP (V) will be responsible for assessing the competence of those carrying out risk assessments with advice from the AE.

It will be at the discretion of the AP (V), IPC and their nominated deputies to include, total viable counts TVC/fungal swabs as part of the assessment process to identify the levels of colony-forming unit (CFU) per square centimetre of the ductwork to establish levels of micro-organisms such as bacteria, mould

and yeast. Similarly, the use of, Dust Deposit Tests (DDT), such as Elcometer can be adopted if necessary.

Furthermore, fire damper locations, conditions, operating performance and testing may also be considered as part of the assessment process and may require the need of additional inspection hatches installed.

It will be essential to undertake a post clean survey on every occasion of ventilation cleaning to establish if work has been carried out to satisfactory conditions. These documents will also form part of the ventilation portfolio.

Ventilation Cleaning

Supply air ductwork conveys air that has been filtered and therefore requires internal cleaning only when it becomes contaminated, the frequency will depend upon the age and condition of the system and flow of air past the AHU filter, there is no requirement to clean ductwork annually. Checks should be periodically undertaken for “filter by-pass” to ensure that filters are installed correctly to avoid particulate contaminates downstream.

Extract Air Systems handle unfiltered air and are therefore cleaned as frequently as necessary in order to maintain their operating efficiency. For visual inspections of filter conditions and damper status, it is recommended that these be linked graphically to a Building Management System (BMS) to visually indicate faults. Kitchen ventilation is a fire risk and should be subject to a quarterly visual inspection depending on how heavily it is used. See table 12 in DW172 Kitchen Ventilation (2018) for guidance.

All fire dampers should be tested by a competent person at regular intervals not exceeding one year, see WHTM 03-01 Part B and BS9999 for technical guidance. There should be a comprehensive log book containing evidence of operational maintenance and testing. Furthermore, a location reference indicating the specific location and condition status of the damper.

Where split and cassette air conditioning units are installed, these units incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. These systems must be on a maintenance programme and inspected / cleaned every three months. These units should not be installed in clinical areas.

Local Exhaust Ventilation (LEV) systems such as fume cupboards and Category 3 rooms must be closely monitored in accordance with WHTM 03-01 Part B, however these remain the responsibility of the “serving department”, and these systems must also be tested/inspected (every 14 months) and verified by specialists to comply with COSHH regulations (P601 Certified). Management of these serving departments, must maintain comprehensive records of their performance, repair and maintenance and share this information with Operational Maintenance Management site leads.

Record Management

In order that ventilation systems can be correctly operated and maintained it is essential that as-fitted drawings, operating manuals, maintenance instructions and commissioning manuals are available as well as complete asset information. This must be made available before hand over stage of a project, issued by the design lead person to the Authorised Person Ventilation.

Log books/portfolios identifying the location of equipment should be kept for each ventilation system. These must contain the maintenance records, testing/validation data, inspection and cleaning frequencies and will be the responsibility of the appointed Estates Authorised Person to ensure that they are kept up to date and available at all times.

All work shall be undertaken in accordance with the HB's Health and Safety policies, Department of Health guidance, relevant Codes of Practice, Health and Safety Executive guidance and departmental Health and Safety procedures. Safe systems of work shall be used for all personnel working on ventilation systems.

Microbiological Air Sampling Theatres

This section of the policy has been included to ensure that the operating theatre ventilation is optimal in order to prevent airborne micro-organisms from entering surgical wounds.

This section covers the requirement for microbiological air sampling in a working theatre, commissioning of new theatres and where there has been "substantial modifications" to the ventilation system or fabric of the theatre. The areas covered include:

- Conventionally-ventilated operating theatres
- Ultra clean-ventilated (UCV) operating theatres

Airborne contaminants may enter and operating room via the following routes:

- Through the supply air
- Shed by operating staff (skin fragments with bacteria)
- Through surgical activities
- Transferred from adjacent spaces

Dilution of airborne contaminants is ensured by a well functioning ventilation system. The design of the operating theatre should seek to minimise the movement of air from less clean to cleaner areas. Overall ventilation (supply flow rates, air change rates, etc.) should give sufficient dilution of airborne bacterial contaminants as per WHTM guidance.

Microbial air testing in a conventionally-ventilated theatre is a final check of supply of optimal quality-air to the operating theatre and the principles are applied for commissioning and monitoring post-maintenance (This will depend upon locally implemented procedures).

Theatre Definitions

Conventionally ventilated operating theatre has a supply of air to dilute airborne contamination by minimising transfer of airborne contaminants from less clean to cleaner areas, to control temperature, of the space and to remove or dilute waste anaesthetic gases. Ultra-clean ventilation system is a means of significantly increasing the dilution effect by providing a large volume of clean filtered air to the zone in which an operation is performed and sterile items are exposed. Air is discharged above the operating zone and, while not truly laminar, its downward displacement purges the clean zone of any contaminants and particles generated within it.

The air flow in and around the clean zone also serves to prevent particles originating outside the zone from entering. Ultra clean air is defined as that containing not more than 10cfu/m3

Microbiological sampling
A suitable accredited external company will be contracted to undertake air sampling as directed by the Appointed AP for Ventilation (this is dependent upon local agreed arrangements).

The theatre should have received a “HIGH LEVEL” clean and should be thoroughly clean and dust-free. The air handling unit should be operating at normal flow rates (i.e. not on setback ventilation) continuously for at least 1 hour before sampling.

The supply air should be checked by closing all doors and leaving the operating room empty with the ventilation system running. An active air sampler mounted in the centre of the room approximately 1 m above floor level should then be activated remotely to sample 1000 L / per minute.

Aerobic cultures on non-selective media should not exceed 10 bacterial and/or fungal colony forming units per cubic metre (cfu/m3).

The result may take up to 5 days to come back to the estates department (however the information may be available after 48 hrs) this will then need to be discussed with Estates staff, Infection Prevention Team and/or Consultant Microbiologist.

A satisfactory microbiological sampling result is required to enable a new or refurbished theatre to be commissioned.

Commissioning
Commissioning must occur before a new operating theatre is first used or after substantial modifications (that may affect airflow patterns) are made to an existing theatre.

Summary for commissioning of conventionally-ventilated theatres
Commissioning is a task usually undertaken by a contractor which is then followed by an independent validator being witnessed usually by NWSSP-SES and the Estates Department. Co-operation and co-ordination between them is important and below is a summary of matters that should be addressed when commissioning conventionally-ventilated theatres.

- The Theatre interior should be checked for obvious defects by both the Estates and end users.
- The air distribution within the theatre and between rooms in the theatre suite should be checked by smoke tracing.
- The air handling unit supplying the theatre is properly constructed, finished and functioning.
- Where “setback” (reduction of ventilation rates when theatre is not in use) is in place, there are indications in theatre of its function and there are safeguards against setback operating (i.e. going back to reduced ventilation rates), whilst the theatre is in use.
- The air change rates in theatre and preparation room are satisfactory.
- Microbiological air sampling results must be satisfactory.

Summary for commissioning ultra clean ventilated (UCV) theatres.
As for conventionally-ventilated theatres, new ultra clean ventilated theatres must be commissioned before being used for the first time or after substantial modifications.

Commissioning is a task usually undertaken by a contractor. Co-operation and co-ordination between them and the AP (V),AE (V) is important. The following matters relevant to infection prevention & control should be addressed:

- The theatre interior should be checked for obvious defects
- The airflow between a preparation room used for instrument lay-up and the theatre is satisfactory and the preparation room has an adequate air change rate as per WHTM guidance.
- The air handling unit supplying the theatre is properly constructed, finished and functioning
- The air velocities in the ultra clean zone are satisfactory, the terminal HEPA filter is effective and the ultra clean airflow can resist particle penetration from outside
- The ultra clean zone resists ingress of air from outside, shown by smoke tests
- There is little value in performing microbiological sampling in a new theatre supplied with ultra clean ventilation but if agreed locally, can still be done on a sample taken in the centre of the ultra clean zone

Monitoring
Provided that engineering parameters are satisfactory and regularly monitored, microbiological air sampling in conventionally-ventilated theatres need not be done on a routine basis.

Microbiological air sampling of empty, conventionally-ventilated theatres should be done either as part of an investigation into theatre-acquired infection with a possible airborne element or after any changes that may affect airflow supply rates or distribution patterns.

This would include alterations to the fabric of the theatre or changes to the ductwork distribution that may affect airflow to or within a theatre suite, but would not include routine filter changes.

Following any annual maintenance work or work activity within the AHU, micro biological testing is to be carried out.

Such sampling should be identical to that on initial commissioning of the theatres. Any of the above problems should be discussed with the Infection Prevention Team, who may have to consider cancellation of theatre list in discussion with theatre staff.

Sampling in a working theatre may be indicated where use of theatre may have been possibly implicated in an increase in surgical wound infection. This should not be done as a routine exercise and would only occur following discussions with the Infection Prevention Team.

UCV Theatres monitoring must be performed annually or following major modifications and consist of filter challenge tests, air velocity measurements, entrainment test and will be arranged by the AP for Ventilation.

Action on air sampling results
All sampling results must be communicated between all relevant stakeholders, such as the Infection Prevention Teams, Authorised Person Ventilation and Consultant Microbiologist for appropriate decision making.

Design
Where new systems are being installed or systems being modified and or added to, the Contractor and or Designers shall provide ventilation in accordance with the Welsh Government Approved Document – Part F Ventilation Volume 2, CIBSE guidelines & WHTM 03-01 Specialised ventilation for healthcare premises, Parts A & B.

The systems must conform to the following standards and codes of practice:

- BESA DW143: 2013 Guide to Good Practice - Ductwork Air Leakage Testing.
- BESA DW144: 2016 Specification for Sheet Metal Ductwork.
- BESA DW145: 2010 Guide to Good Practice for the Installation of Fire and Smoke Dampers.
- BESA DW154: 2000 Specification for Plastic Ductwork.
- BESA DW172: 2018 Specification for Kitchen Ventilation Systems.
- CIBSE TM26: 2011 Hygienic Maintenance of Office Ventilation Ductwork.
- BS 7671: 2018 Requirements for Electrical Installations, the Wiring Regulations Eighteenth Edition
- BS 9999:2017 Fire safety in the design, management and use of buildings. Code of practice.
- BS EN 1886: 2007 Ventilation for buildings. Air handling units. Mechanical performance.
- WHTM 03-01 Specialised ventilation for healthcare premises, Parts A & B.
- Approved Document Part F – Ventilation
- TR/19: Guide to Good Practice – Internal Cleanliness of Ductwork
- CIBSE Guide A: Environmental Design 2015
- CIBSE Guide B: Heating, Ventilating, Air Conditioning and Refrigeration (Guides B0 – B4)

Testing and commissioning
Testing and commissioning of the ventilation systems including the ductwork shall be undertaken with, but not limited to:
- CIBSE Guidelines
- CIBSE Commissioning Code A: Air Distribution Systems
- CIBSE Commissioning Code M6: Commissioning and Testing (2023)
- DSP DW/143 Guide to good practice ductwork leakage testing. 6th edition (2013)
- DSP DW/172 Specification for kitchen ventilation systems. 2nd edition (incorporates addendum April 2020)
- BSRIA BG 49/2015 Commissioning Air Systems
- HTM 03-01 Specialised ventilation for healthcare premises, Part A
- Approved Document-F Volume 2 – Buildings other than dwellings (2022)

The Installer shall engage the services of a specialist commissioning engineer to balance, test, and commission the ventilation systems in accordance with CIBSE requirements and Chapters 11 & 12 of WHTM 03-01 Specialised ventilation for healthcare premises, Part A.

All test figures shall be submitted to the Contract Administrator for their perusal prior to the system tests being repeated in the presence of the Contract Administrator or their nominated representative at an agreed time.

Following the demonstrations all dampers shall be marked as earlier referred to and all readings shall be recorded for inclusion in the O&M Manuals both on individual commissioning sheets and on the record drawings. Information relating to the information to be included within the O&Ms can be sought in Chapter 13 of WHTM 03-01 Specialised ventilation for healthcare premises, Part A.

Failure to comply with clauses above may result in withholding the issue of the Practical Completion Certificate. This will be the decision of the Contract Administrator.

Roles and Responsibilities

Employers Duties

The HDUHB as employers have a general duty under The Health and Safety at Work etc. Act 1974 (HASWA), in particular Section 2, to ensure that, so far as is reasonably practicable, the health, safety and welfare of all their employees and others who may be affected by their undertaking e.g. Patients

Employees Duties

Under Section 7 of the HSWA, employees have a duty to take reasonable care for their own health and safety and of others who may be affected by their acts or omissions at work. Section 7 also requires the employee's co-operation with their employer to enable the employer to comply with statutory duties for health and safety.

Responsibility

Responsibility for the effective implementation of this policy principally resides with a collection of staff as referred to in the management hierarchy diagram section.

Chief Executive's Responsibilities

The CEO has ultimate management accountability for this policy, including the allocation of resources and the appointment of key personnel. Day to day management and control of the Ventilation infrastructure is delegated to the nominated Authorised Person's (AP's) Vent and subsequent Competent Persons (CP's) Vent employed by the organisation.
The CEO (or appointed deputy, e.g. designated person/deputy designated persons) will appoint in writing all AP's after recommendation by the Authorising Engineer (AE) (defined below).

Board Level Director (BLD) - Designated Person (DP)

A board level director (BLD) responsible for Estates and Facilities Services will be assigned as the Designated Person (DP) with responsibilities for Ventilation as defined under WHTM 03-01 and is therefore responsible for ensuring that an appropriate Estates Structure has been formulated to professionally support and deliver the requirements of this policy. Furthermore, is required to communicate all relevant issues to the Board that may impact on the delivery and effectiveness of this policy. The BLD (or nominated deputy, i.e. DDP) is also expected to appoint in writing an Authorising Engineer (V) for the HDUHB.

Senior Estates Management – Deputy Designated Persons (DDP)

The Director of Facilities, Estates & Capital Management (DFECM) and The Head of Operations (HoO) are collectively responsible within the estates department for ensuring that adequate trained resources

and expertise is made available to formulate an estates structure.

They will also collectively act as Deputy Designated Persons (DDP) and are therefore responsible as directed by the DP for nominating in writing, Authorised Persons (AP's) whose duties will be to implement and manage the Health Board's Policy for Ventilation Systems. This will be an official appointment in writing following assessment and recommendation from the externally appointed Authorising Engineer for Ventilation Services.
The operational estates structure must ensure that effective and robust safety management arrangements are in place in order to meet the legal requirements.

Head of Operational Services
The Head of Operational Services is responsible for the day to day management of all operational functions including the full integration of Hard and Soft FM services within their regions. They are fully responsible for the staff within their management control, including that of monitoring of competency levels and training requirements in order that staff can undertake their roles appropriately and effectively in accordance with published guidance.

The Head of Maintenance & Engineering
The HoM&E is responsible for overseeing and coordinating the day to day activities of the site operational managers for each acute site, ensuring that there is sufficient resources and expertise in supporting and maintaining the HB's Ventilation Infrastructure to satisfy the contents of this policy. The HoM&E will ensure that it has implemented a clearly defined maintenance strategy which will support and assist with achieving compliance with legislation and the mandatory requirements as identified above.

To fulfil its obligations, the HB will implement a robust management structure and suitable management arrangements to monitor, maintain and assess ventilation systems within all of its premises.

The HoM&E shall ensure that:

- Any Critical systems are identified and subjected to testing by an AP.
- Ensure that appropriate reactive and planned preventative arrangements are put in place to deliver to the aims of this policy.
- Maintain a register of Authorised Person's.
- Ensure that competent persons undertake regular maintenance on other ventilation systems and equipment.
- Have in place a procedure for assessing competent persons.
- Maintain a register of competent persons.
- Ensure that only individuals assessed as being competent and included on the register are used by sub contractors, i.e. it is the individual not the contractor that needs to be assessed.
- Ensure that the policy and procedures are implemented by a range of in-house or contracted services.
- Audit the effectiveness of the arrangements and arrange corrective action.
- Report any deficiencies which cannot be addresses within delegated limits of resource and authority.
- Ensure that critical ventilation systems are independently verified annually in accordance with WHTM 03-01 part B.

- Arrange for any adverse incident to be investigated by the Authorising Engineer and for the dissemination of related advice.

Project Managers
Have the responsibilities to ensure that:

- All new installations meet the latest legal and technical standards.
- A suitably qualified person is involved in the design of all new installations and that commissioning and performance checks are undertaken and documented.
- All new installations are assessable and maintainable without resort to specialist access equipment or the need for removal of finishes/infrastructure.
- Maintenance teams have comprehensive operations and maintenance manuals (O&M), handed over on completion of schemes.
- Appropriate training and familiarisation is provided to in house and contract teams.
- All new designs or major modification to existing systems are checked by the Authorising Engineer prior to the commencement of work.
- All new installations are independently validated prior to contract completion.
- All variations from the standards set out within WHTM 03-01 Part A are listed and agreed in writing by the Authorising Engineer prior to implementation.

The Statutory Compliance Manager (SCM)
The SCM has a strategic involvement within the Operational Management Structure to support and assist the HoO and relevant Site Operational Managers on legislation, governance and policy arrangements in order to achieve compliance. This will also include the management of risk registers and the bidding of statutory capital funding to address actions.

Furthermore, is required to make the necessary changes to these policies and working practices following any revisions in legislation and advise the operational management team of such changes.

Authorising Engineer Ventilation (AE(V)
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 documents on validation. An AE(V) will be appointed in writing by the HB.

They shall:

- Provide a service in accordance with WHTM guidance.
- Advice on technical compliance with WHTM 03-01 Part A and B.
- Advice on interpretation of WHTM 03-01 Part A and B.
- Assess and make recommendations for the appointment of Authorised Persons.
- Monitor the performance of the service and provide an annual audit to the Designated Person.
- To investigate any adverse incident and report on any findings.
- Advice on the consequences of any proposed variation from the standards given within WHTM 03-01.

Site Operations Managers (SOM)
The SOM's along with their deputies are responsible, managerially and operationally for the effective delivery of maintenance services within the HB's premises. They will possess the adequate technical knowledge and must be appointed in writing by the DP following advice from the AE if acting in an AP capacity.

The SOM along with their deputies will ensure that all Maintenance Policies and Procedures are followed across the HB premises and will ensure that inspection, service and maintenance activities are carried out safely without hazard to staff, patients and members of the public.

This will be delivered via a robust Pre Planned Maintenance (PPM) regime, utilising in house Competent Persons (CP's) and/or the engaging of specialist contractors to undertake regular risk assessments and remedial work where and when necessary.

It will also be essential for the SOM's to hold accurate ventilation portfolio's for all air handling equipment to assist in the effective management and frequencies of inspection and cleaning regimes. The portfolios will indicate both critical and non critical equipment.

The SOM along with their deputies will also be involved in discretional and major capital projects where necessary and will:

- Ensure the maintenance team have appropriate input to design and maintainability of all new installations.
- Ensure that maintenance teams have comprehensive operations and maintenance manuals handed over on completion of schemes.
- Ensure that appropriate training and familiarisation is provided to the in-house maintenance teams upon scheme handover.
- Fulfils the role of AP for specialist engineering services.
- Coordinate and communicate with the end users of the equipment where access or shut-downs are required and liaise with Infection Prevention & Control Team if required.

Authorised Person (Ventilation) (AP(V)
Will be an individual possessing adequate technical knowledge and having received appropriate training, appointed in writing (following advice from the AE (V)), who is responsible for the implementation and operation of Management's safety policy and procedures relating to the engineering aspects of ventilation systems.

Infection Prevention Team
The IPT may be required by management to advise on monitoring the infection prevention & control policy and microbiological performance of the systems, the SOM will work closely with the IPT staff on all aspects of ventilation maintenance including periodic air sampling in critical ventilation systems.

It is the responsibility of the Infection Prevention Team (IPT) to provide input for all matters relating to the hospital environment, maintenance of hospital buildings and engineering systems and to work with the Estates Team including:

- To promote the use of ESR for mandatory training for infection control and reduction in HCAI's

- Provide guidance and support when advice on controlling the environment is required
- Provide advice on risk assessments for controlling the environment decisions
- Identify priorities for action

Competent Persons Ventilation (CP(V)
The CP(V) is defined as a person designated by management to undertake maintenance, validation and periodic testing of ventilation systems.

Trade staff or contractors must have sufficient technical knowledge, received appropriate training and experience to carry out their defined duties, and to understand fully any dangers involved and will be directed, appointed, or authorised to work (if a contactor), by the Supervisor or Authorised Person (AP) dependent on the work involved. Maintenance Assistants provide support to this role with direction from more senior grades of staff.

Ventilation Safety Group (VSG)
The HB has formulated an Ventilation Safety Group (VSG) which is a sub group of the Health & Safety Committee the purpose of the group is to advise and support on all aspects relating to Ventilation Safety. Membership can be found in the Terms of Reference (T.O.R) for the VSG.

The VSG shall meet quarterly and the minutes/actions of the meetings shall be made available to the group members for information and also to the Health & Safety Committee (upon request). The purpose of the meetings can be found in the T.O.R.

The Chair of the group will be Head of Maintenance & Engineering Estates or nominated deputy. Therefore will periodically provide a status update at the Health Board's quarterly Health and Safety and Emergency Planning Sub Committee, which is chaired by the DP – Deputy Chief Executive.

Sub Ventilation Safety Group
The HB has formulated a Sub Ventilation Safety Group (Sub VSG), which is a sub group of the Ventilation Safety Group, the purpose of the group is to resolve, advice and support on all actions raised by the VSG and update the tracker that has been developed by the Compliance team.

The Sub VSG shall meet twice before the main VSG, the purpose of the meetings shall be to address key actions raised in the main VSG.
The Group's membership shall consist of:
• Authorised Person
• Compliance Manager
• WWHTM Compliance Officer
• any other co-opted members as deemed appropriate

WHTM Management Structure
Clear lines of managerial responsibility must be in place so that no doubt exists as to who is responsible for the safe operation and maintenance of the equipment, the WHTM hierarchy below depicts and summarises the key appointments.

Communications between all parties involved must be considered where ventilation work is required to ensure that each key member of staff is fully aware of their involvement and responsibilities.

References

SI 2002/2677 Control of substances hazardous to health Regulations 2002

SI 1992/3004 Workplace, health, safety and welfare Regulations 1992

SI 1992/2966 Personal protective equipment at work Regulations 1992

L8 Legionnaires' disease : control of legionella bacteria in water systems : approved code of practice and guidance on regulations (ACOP) (L8)

WHTM 03-01 - Specialised ventilation for healthcare premises Part A

WHTM 03-01 - Specialised ventilation for healthcare premises Part B

WHTM 00 Policies and principles of healthcare engineering (WHTM)

DW 172 Specification for kitchen ventilation systems

CH 37 Health and safety at work etc Act 1974

Building Reg F (2021) Ventilation : volume 1 dwellings : for use in England

Appendix 1- Management & Control Hierarchy