APs – a full-time job or just 'an added extra'?

The assessment, appointment, and acceptance of the Authorised Person role can be seen as a 'tick-box exercise', and many APs find that the role is considered as an 'added extra' to existing duties and roles. Here Andrew Poplett, an IHEEM-registered Authorising Engineer for both water and specialist ventilation services, discusses the extent and nature of the role – using ventilation as the primary exemplar of duties, although he says many of the issues are universal to all healthcare engineering services.

As an independent Authorising Engineer I am frequently asked to undertake assessments for potential Authorised Persons (AP). Often these individuals are new to an organisation, or have just completed a training course, and all too often the discussion or interview reveals that the individual is already over-stretched, or working to cover a number of operational roles, and even numerous other AP roles. This makes the responsibilities of being an AP seem to be a simple 'box-ticking' exercise, and can mean that the matter is not given the appropriate level of consideration – not only in terms of the role and duties / responsibilities involved, but equally as regards the organisational accountability for the suitable provision of assurance and compliance. In this article I will focus on the role of the Authorised Person (Ventilation), although many, if not all, of the aspects covered will apply to a similar area of work for all of the other engineering roles which require an Authorised Person role/appointment.

What do the standards require?

The HTM 00 core standard: *Policies and principles of healthcare engineering*, provides a very high-level overview of the role of AP:

Clause 3.18 states that 'The AP has the key operational responsibility for the specialist service. This person will be qualified and sufficiently experienced and skilled to fully operate the specialist service. They will be nominated by the AE, appointed by the healthcare organisation, and be able to demonstrate:

- Their understanding through familiarisation with the system and attendance at an appropriate professional course.
- Competency.
- A level of experience, and
- Evidence of knowledge and skills.'

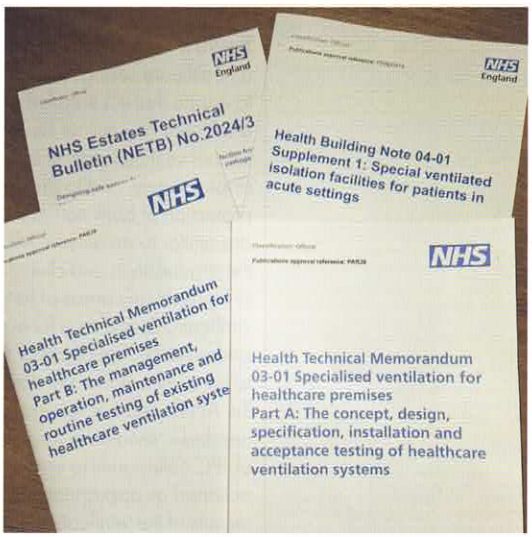
This is further expanded upon in the following three clauses, which seek to highlight the critical importance of the role:

Clause 3.19 states that 'an important element of this role is the maintenance of records, quality of service, and maintenance of system safety (integrity)'.

Clause 3.20 goes on to highlight that 'the AP will also be responsible for establishing and maintaining the validation of Competent Persons (CPs), who may be employees of the organisation or appointed contractors'.

Finally, Clause 3.21 states that 'larger sites may need more than one AP for a particular service. Administrative duties such as record keeping should be assigned to Specific APs and recorded in the operational policies'.

For ventilation systems, HTM 03-01: *Specialised ventilation for healthcare premises Part B: The management, operation, maintenance and routine testing of existing healthcare ventilation systems*, stresses, under clause 2.4, that 'Training in the validation and verification of specialised healthcare ventilation systems for Authorised Persons (APs) and Competent Persons (CPs) is available from a variety of providers'. There is a duty on post-holders to keep their knowledge up to date, as reflected for APs in their CPD record, and this HTM guidance goes on to state, under clause 2.9: '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.'



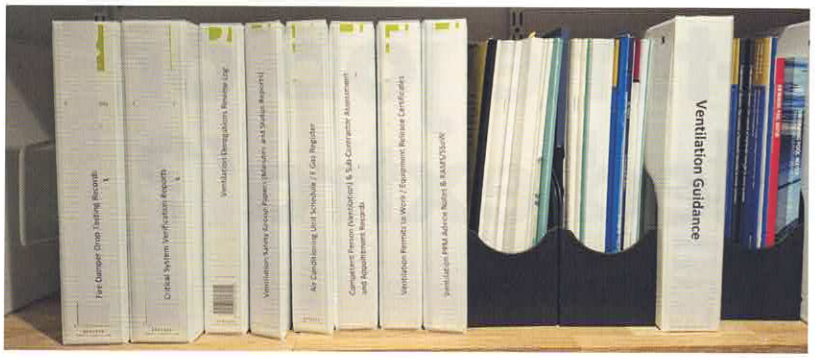
HTM 03-01, HBN 04-01, and NHS Estates Technical Bulletin No 2024/3, are among a raft of guidance designed to ensure the safe and compliant operation of healthcare ventilation systems, and should be viewed as an AP(V)'s 'essential standards'.

Clause 4.5 of HTM 03-01: *Specialised ventilation for healthcare premises. Part A: The concept, design, specification, installation and acceptance testing of healthcare ventilation systems*, also identifies the AP(V) as an essential member of the Ventilation Safety Group (VSG), while HTM 03-01 Part B specifies that the AP(V) has specific responsibilities for the management of Equipment Release Certificates or Permit to Work systems.

So what does an AP(V) have to do?

While all of the following responsibilities are critically important to a safe and appropriate ventilation system, the first two roles are arguably directly linked, and the most critical:

Communication: One of the primary responsibilities of an AP(V) is to enable effective and open communications with all stakeholders. The founding principle of the Ventilation Safety Group is to ensure effective partnership working, and as the AP(V) acts as a key primary member of the group, it is essential that they work with all parties to ensure good working relationships via clear and honest communication. In the event of an issue or problem, it is far



An AP(V)'s typical shelf and records.

easier if the people involved can work together without the need to seek blame or fault, and this approach is best established when issues are progressing well, and everyone is confident that they can trust and work with one another. It is far easier to meet informally over a coffee regularly to discuss what's working well, rather than when something is wrong, and everyone is under pressure.

Review of verifications: Every ventilation system within a healthcare setting should have a sufficient initial validation to ensure that it is installed and functions correctly. Thereafter each year any critical ventilation system should have an annual verification to ensure that it continues to operate appropriately, and to provide a safe environment for the protection of both staff and patients. These verifications are similar to an annual 'MOT', to provide assurance to the organisation and clinical teams, and should be used to highlight any areas of historic issue (since the previous verification), and as a forward assurance of future performance. The results of these verifications are required to be communicated on the day of being undertaken to the AP(V), and are subject to an immediate review, and – if needed – escalation to other stakeholders such as clinicians or IPC colleagues to ensure that any identified issues are actioned as appropriate. In practical terms the detailed reports of the verification exercise can take up to a few weeks to be provided, and time is required to be given to the AP(V) to undertake a comprehensive review of these reports to ensure that all aspects are assessed and actioned as appropriate. It is usual that these actions are recorded in some form of live 'tracker' document to ensure confirmation of completion or action. The reports should form part of the assurance reporting to the Ventilation Safety Group (VSG) of issues, and provide evidence for both the Premises Assurance Model (PAM) returns and backlog investment and risk registers / strategies.

Management of Permit to Work (PTW) / Equipment Release Certificates (ERC): As a minimum, every critical ventilation system should be controlled by means of a suitable equipment release or Permit to Work system, as outlined under clause 5.5 of HTM 03-01 Part B, which says: 'For many of these systems an equipment release or permit-to-work certificate will need to be completed to ensure that taking the ventilation system out of service does not compromise the activities of the user department. In any event, it will be necessary to liaise with the user department when switching the system off to carry out routine inspection and maintenance.'

The management of these ERC or PTW systems is directly linked to the size and complexity of the ventilation systems within an organisation, but is time-critical, and likely to involve a considerable amount of both time and close working with other stakeholders, e.g. clinical teams.

If – as in this instance – a glass trap keeps leaking, the author advises changing it for an isolation valve.

PPM monitoring – SSoW & RAMS: One of the cornerstones of a safe and reliable ventilation system is the provision of regular and appropriate planned preventative maintenance, and this activity is required by law to be suitably controlled and managed by means of safe systems of work and task and system-specific risk assessments. These systems take time to set up, and require regular (at least bi-annual) review to ensure that they remain appropriate. New or refurbished systems also need to be added, and redundant systems removed. Developments in ways of working and plant and equipment technology should be reflected and updated as appropriate. Much of this information should be in place, and updates driven from the appropriate levels of information provided through the validation process for new projects or systems.

Review of sub-contracted services: Many organisations sub-contract out a number of key maintenance tasks. These typically can include fire damper drop testing, air-conditioning maintenance and servicing, and ductwork inspection and cleaning (especially kitchen extract cleaning). These tasks require specific competencies, and the AP is required to assess the companies and individuals undertaking this work. There is also an absolute requirement to review, assess, and action, the subsequent reports, which often entails remedial actions or follow-up work to ensure continued compliance or risk identification for assurance purposes.

VSG reports and attendance: The Authorised Person is required to be an active member of the Ventilation Safety Group (VSG), and – as such – provide, ideally via a written status report, regular updates and assurance to the group of appropriate maintenance and the condition of ventilation systems. The concept of this report is to produce an overview summary of ventilation management and control systems on an operational site basis to members of the VSG – to provide assurance that appropriate management controls are in place to maintain the ventilation systems, and minimise the risks to the organisation associated with the ventilation systems and compliance with legal obligations.

This report should record, by exception, areas of concern and potential escalation through the organisation's reporting structures, and also provide evidence for both the Premises Assurance Model (PAM) returns and backlog investment and risk registers / strategies.

Project design reviews: The AP(V) will typically be the first point of contact for any new or refurbishment project, and should always be involved and consulted on the practical aspects of any planned works at an early stage. This will involve attendance at planning and design meetings, often in conjunction with the AE(V) to ensure that new installations are compliant with the appropriate standards, and are operationally appropriate and maintainable.

Project inspections and testing/commissioning witnessing: An integral element of the above is that once developed to a stage where installation commences, then the AP(V) will typically have an ongoing role of site inspection and witnessing of testing and commissioning activities. This work and close involvement of the AP(V) at the construction stage is essential to avoid expensive and delays at handover, or defects at the operational phase.

Site investigations: Outside of capital developments, the AP(V) is the primary lead on operational incidents and issues involving the ventilation systems. These may be instigated from user/operator-reported issues, items identified through annual verifications or planned preventative maintenance, or reactive maintenance reports. While hopefully these situations are not frequent, they are nearly always time-consuming, and can escalate to have extremely serious patient or staff safety implications.

Management and monitoring of derogations: When considering a derogation, the initial question needs to be clearly established as to who has the authority to agree a derogation, and who ultimately holds the responsibility for the decision. Once a derogation has been identified as potentially being required or desired, the issue needs to be very clearly defined by the requester as to the exact nature and extent of the potential derogation. This should include full details of the clause or area of derogation, the reason(s) for the inability to conform to the relevant standard, the predictable consequences of the derogation, and what, if any, mitigation is being proposed to minimise or remove the residual risk of non-conformance.

Following the request, the project team should log the request and undertake a review to assess the request with input from the appropriate working safety group and Authorised Person(s) for the discipline(s) involved. If considered necessary, the opinion of/comment from the Authorising Engineer for the specific discipline should also be sought, to ensure that all aspects have been suitably identified and considered. For the avoidance of doubt, the review must be comprehensive, and include representation for all stakeholders – including clinicians, IPC, Operational Estates & Facilities, and the Project team; it must not be undertaken in isolation by the project team.

Competent Person assessments and appointments: In addition to the roles I have already outlined, the AP(V) also holds primary responsibility for the assessment, and potentially the appointment, of the Competent Persons (Ventilation) CP(V). This person(s) provides skilled installation and/or maintenance of the specialist service.

The CP will be appointed, or authorised to work (if a contractor), by the relevant AP. They will demonstrate a sound trade background and specific skill in the specialist service. They will work under the direction of the AP, and in accordance with operating procedures, policies, and standards, of the service. As such, the AP(V) has a significant responsibility to ensure that all staff retained to work on the ventilation systems are competent to carry out the works required.

Maintaining CPD and providing awareness training to others: Finally, the AP(V) is required to be re-assessed at regular intervals (typically every three years) to ensure that they remain suitable to fulfil the role. To demonstrate this, they are required to undertake, and be able to demonstrate, a level of Continuing Professional Development (CPD) to ensure they remain up to date with technological developments and standards. This does not necessarily entail attendance at a refresher training course, but should include evidence of knowledge and skills maintenance, and development, where appropriate.

AP Role and Skills

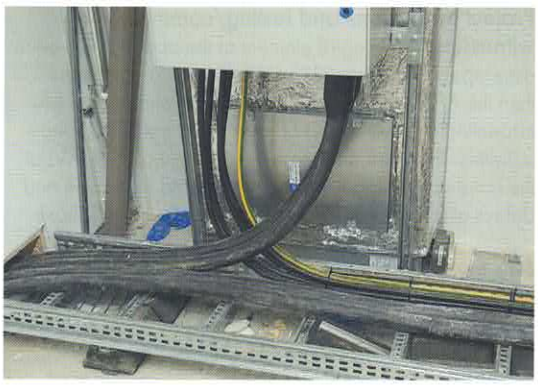
An AP(V) should have, and be able to demonstrate to an appropriate level or extent, the following skills and abilities to successfully fulfil the role:

- Apply the main applications for ventilation in healthcare premises, and explain why the need exists.
- Apply management responsibilities in relation to ventilation and air-conditioning in accordance with the defined Authorised Person role in Department of Health and Social Care guidance.
- Describe health and safety issues relating to air quality, including the legal requirements relating to those issues and means of compliance.
- Describe how ventilation systems can be used to minimise healthcare-associated infections.
- Manage the essential monitoring and maintenance procedures required for the safe and efficient operation of plant components.

Andrew Poplett said: "Regular AHU maintenance is essential – even more so in a healthcare setting – where failure of such equipment to operate properly can put at risk the health of all the building's occupants."

Right: Andrew Poplett says: "Spot the mistake – when the ventilation installer fails to understand the purpose of the access door."

Far right: An example of 'when other service installers undo the good work of the ventilation installer'.



- Use sources of guidance associated with the safe and efficient operation of plant components.
- Apply the main requirements of operating theatre ventilation and other specialist ventilation systems, and understand their relevance to the health of patients and staff in accordance with HTM and HBN guidance.
- Manage and control works on specialist ventilation systems used in healthcare premises in accordance with the Authorised Person role, as defined in Department of Health and Social Care guidance.
- Measure airflow and humidity in ducts and at air terminal devices, using a variety of instruments to maintain and operate complex healthcare ventilation systems.
- Demonstrate proportional balancing of a simple ventilation system, and state the process for balancing a complex ventilation system.
- Identify essential components of an air-conditioning system typically used in healthcare premises.

Core skills and knowledge essential for the AP(V)

Among the core skills required to fulfil the AP(V) role are:

- The ability to work with and support the IPC team.
- The ability to ensure effective ownership of ventilation management for all uses.
- The ability to review the risk assessments.
- The ability to ensure that the operational standards and procedures are kept under review, including risk assessments, verifications, and other associated documentation.
- The ability to agree and review remedial measures and actions, and ensure that an action plan is in place, with agreed deadlines, to ensure that any health risks pertaining to ventilation and patient safety are addressed.
- The ability to be responsible for training and communication on ventilation-related issues.
- The ability to ensure that all tasks indicated by the risk assessments and annual verifications have been allocated and accepted.
- The ability to determine the best use of available resources.
- The ability to oversee adequate supervision, training, and competency, of all staff.
- An understanding of the particular vulnerabilities of the at-risk population (an IPC speciality).
- The ability to ensure that new-builds, refurbishments, modifications, and equipment, are designed, installed, commissioned, and maintained, to the required standards (an Estates speciality).
- The ability to ensure that maintenance and monitoring procedures are in place (an Estates speciality).

As per the relevant HTM guidance, the potential AP(V) should be able to demonstrate – by training and assessment – a level of competence in the majority, if not all, of the above areas.

Demonstrating knowledge and experience

All AP(V)s must also be able to demonstrate knowledge and experience of the following:

- organisational governance arrangements in relation to ventilation and safety;
- familiarisation with local policies/procedures in relation to the management and provision of ventilation systems;
- information on prominent airborne pathogens and their consequences;
- the responsibilities of individuals to prevent the contamination of the ventilation systems, and assisting in ensuring that the control measures in place are effective;
- how the safety of ventilation systems can be maintained by good hygiene practices;
- general principles of ventilation system design;
- inspection, maintenance, and cleaning, of plant, equipment, and materials;
- organisation-specific control measures;
- the impact of getting it wrong;
- the remit of annual performance verifications and validations for new system commissioning.

Conclusions

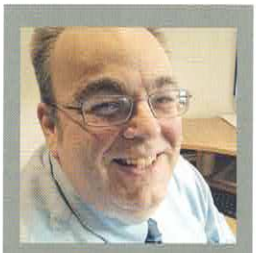
The role of AP, regardless of the engineering discipline, carries complex, technical, and time-consuming responsibilities. Individuals appointed to these roles need to fully understand the remit and responsibilities involved, and ensure they are confident in their own competencies, and fully aware of the routes for escalation and support.

The number of APs needed on, say, an acute hospital site, to effectively carry out the role, differs widely, depending on the size and complexity of the site, and the associated engineering services. It is also essential that anyone undertaking the AP role has the time and capacity to fulfil the duties, and I would suggest that there should be a maximum number of AP roles that any individual can reasonably be expected to maintain. Based on the description and remit of the Authorised Person (Ventilation) I have outlined in this article, I believe it is an absolute requirement that those responsible for the management of the healthcare estate and the specific engineering services recognise the complexity and range of duties that all APs hold, and that they reflect that, if challenged, they can justify the level of accountability, resources, and levels of responsibility, which the AP role fulfils for their respective healthcare organisation.

The postholder needs to be able to demonstrate:

- Their understanding of the role – through familiarisation with the system, and attendance at an appropriate professional course.
- Competency.
- A level of experience, and
- Evidence of knowledge and skills.

I would also suggest that the employing healthcare organisation should be able to demonstrate that the individuals in an AP position have been given sufficient time, resources, and authority, to fulfil the role. HEJ



Andrew Poplett

Andrew Poplett AE(W), AE(V), IEng, MIHEEM, ACIBSE, AffIFE, is an experienced engineer with over 35 years' experience in the healthcare building services engineering profession, with 18 of those having been spent in the NHS. He is now an independent advisor to NHS and private sector healthcare estates teams in his role as an Authorising Engineer for both specialist ventilation and water quality, and provides specialist support and advice on all aspects of estates and property management.