



Job Description and Personal Specification

Job Title - Senior Engineer



For the Attention of All Applicants

December 2020

Job Description Notice of Change

NHS Scotland Assure is a new service within NHS National Services Scotland that brings together the experience and knowledge of Health Facilities Scotland (HFS) and the Antimicrobial Resistance and Healthcare Associated Infection (ARHAI).

As a result the job description(s) associated with the current vacancy still reflects the HFS and ARHAI structure. Candidates are advised that all job description(s) shall be updated over the coming months to reflect NHS Assure branding and organisational structure as part of the establishment of the new service.

NHS NATIONAL SERVICES SCOTLAND

JOB DESCRIPTION

1. JOB DETAILS

Job Title	Senior Engineer
Immediate Senior Officer/ Line Manager	Principal Engineer
Department	Health Facilities Scotland
SBU	PCF
Location	Glasgow / Edinburgh/Home
CAJE Reference	NPPRCFG688

2. JOB PURPOSE

The core duty of the Senior Engineer (High Voltage /Low Voltage/ Ventilation/ Water or medical gas) is to be the principal source of specialist advice in each discipline to NHS Scotland boards, and act as subject matter expert in Key Stage Authorisation Reviews. The post-holder will also discharge the duties of the discipline specific Authorising Engineer as defined in Scottish Health Technical Memorandum (SHTM) 00-00, and SHTM 02-01/ 03-01/ 04-01/ 06-02/ 06-03 as appropriate for NHS Scotland.

The postholder will provide impartial expert advice, guidance and support to a wide range of colleagues at all levels within NHS Scotland, through development and implementation of guidance and mandatory and legislative requirements, through organizing and leading meetings, site visits, seminars and workshops in order to maintain and progress the national engineering agenda.

This will include provision of general and impartial advice on all matters concerned with discipline specific engineering, carrying out facilities and system audits, reviewing equipment validation, revalidation and periodic tests. It will also include involvement in assessing & training key engineering staff e.g. Authorised Person (AP) and Competent Person (CP) and advising management on the appointment of the appropriate AP(s). The post holder will also play a key role in assessing and advising on new engineering technologies, processes and facilities in this rapidly developing field.

3. DIMENSIONS

The post holder will be responsible for auditing and reviewing compliance and safety management systems in relation to the specific discipline and reporting to NHS Boards and NSS. This is a highly specialised technical role and a very high degree of expertise in the specific discipline is required.

The post holder will manage and supervise junior engineers and graduate trainees in their discipline (numbers yet to be determined by NHS Assure programme but unlikely to exceed 4).

The role involves reporting on the implementation of national operational policy on engineering and related topics, providing engineering support to NHS Scotland professionals in the above fields, and supporting the Principal Engineer(s), Head of Engineering and Assistant Director in leading and managing the Scottish Engineering Technology Advisory Group and National Advisory Group for the relevant discipline and actively contributing to and advising the Strategic Facilities Group and Scottish Government.

Whilst the post-holder has no direct budget accountability the budget influenced is around £2bn per year, which is the capital procurement, operation and maintenance budget for NHS Scotland and successful delivery of the required support, along with other disciplines, could save NHS Scotland £10m per year.

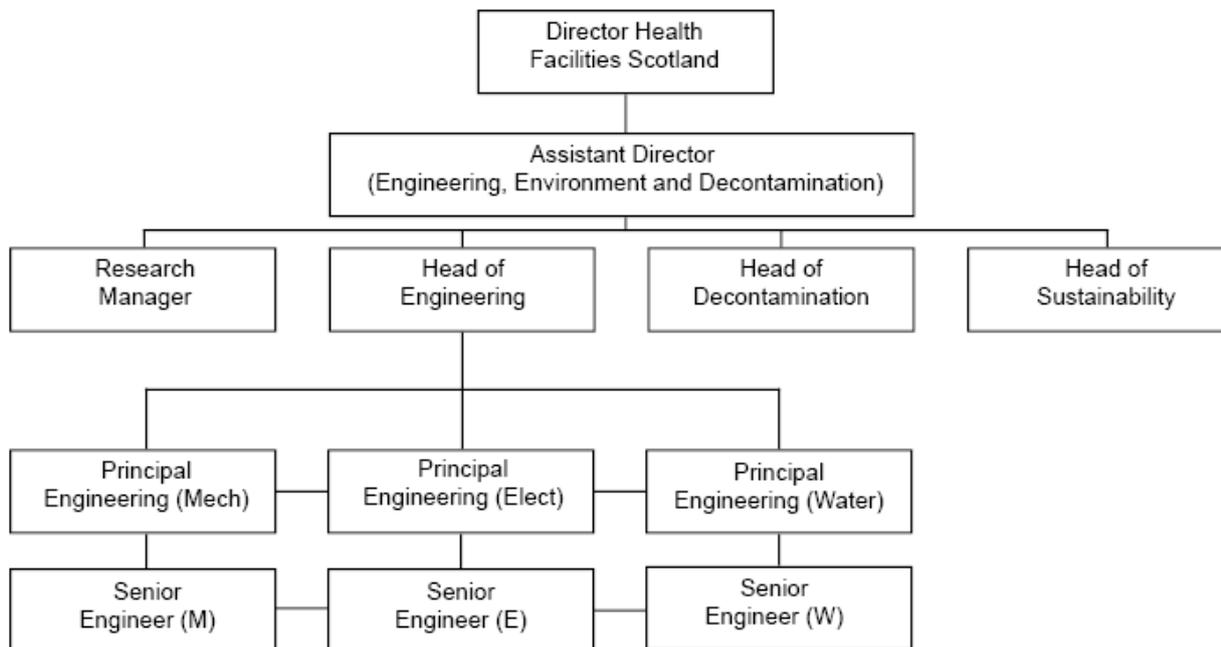
The post holder contributes to the development of national operational policy on Engineering and related topics, providing national leadership and support to NHS Scotland professionals in the above fields.

The post holder leads and contributes to national reviews of support service provision, identifying efficiencies and best use of resources for NHS Scotland and to inform Scottish Government policy.

The post holder also contributes to related aspects of Health Facilities Scotland's Education and Training programme at seminars, continuing professional development and postgraduate levels in these areas.

The position entails working with colleagues at UK and international level to ensure policy and guidance are as consistent as possible and make the best use of available resources.

4. ORGANISATIONAL CHART



5. ROLE OF THE DEPARTMENT

Health Facilities Scotland, as a Division of National Services Scotland, provides national leadership in the management of the health estate and facilities services. It is a multi-disciplinary organisation working in partnership with NHS Scotland Health Boards, the Scottish Partnership Forum, the Scottish Government Health Directorates, NHS England, NHS Wales and NHS Northern Ireland.

HFS works closely with the Scottish Government to establish professional and technical standards and best practices, including the promotion of new initiatives in the field of healthcare property and facilities management. This assists NHS Scotland in meeting Government policy and strategic aims for the UK and Scotland, as well as meeting NHS Scotland's own targets. HFS fulfils a key national role in the development and publication of national operational policies, standards, strategies and technical guidance for NHS Scotland in relation to non-clinical professional healthcare subjects including Architecture, Building, Science and Engineering, Planning, Environment, Sustainable Development, Estates and Facilities Management, Construction Procurement and allied technical topics. In addition, HFS delivers an extensive education and training programme in relation to each of the aforementioned subjects and is also responsible for the national Hazards and Safety Action Notice service for NHS Scotland, which is coordinated UK wide.

HFS's Engineering, Environment and Decontamination section provides the roles of an expert client. It manages research projects, produces technical publications and provides a National Engineering, Environment and Decontamination advice service to HFS's Director, NHS Boards and the Scottish Government Health Directorates. Accuracy, quality and relevance of HFS's publications are important features of the work. A high quality product is essential for these national publications, which have a direct bearing on the safety and efficiency of service provision in NHS Scotland and beyond.

The section uses the services of a considerable number and range of consultants and contractors in the preparation of technical or managerial national guidance. The post holder will lead on all aspects of these in relation to Engineering, and will also work with and advise colleagues on the Engineering implications or opportunities of other areas of HFS's work.

The work entails the post holder representing HFS and the NHSS by leading and contributing to a range of short life working groups at national and UK level. These include the UK policy group on Engineering, the Scottish Engineering Technology Advisory group and various short life working groups. The post holder is required to support or contribute to other forums or bodies which form reference groups for policy at Scottish and UK level, including the Scottish Engineering Technology Advisory Group, and the Strategic Facilities Group

6. KEY RESULT AREAS

1. Provide expert advice, guidance and support in line with the national engineering agenda to NHS Scotland on all aspects of discipline specific engineering including design, capacity requirements and equipment procurement for new and refurbished facilities.

2. Provide advice, guidance and support on a broad range of specialist issues in the appropriate discipline and conduct technical investigations when required into engineering system failures and provide support on specialist hospital engineering issues to the Health Boards. The Senior Engineer (Specialist) shall also assist the development local policies and strategies on behalf of the Health Boards in NHS Scotland as well as advising on matters relating to Incident Reporting and Investigation Centre (IRIC), HAI SCRIBE (SHFN 30) and the Statutory Compliance and Audit and Risk Tool (SCART).
3. Lead expert advice and guidance with regards to the Senior Engineer (Specialist) role in designated sites. This will include early detection and notification of issues or situations which may prove to be staff or public health/health and safety risks or deviations from national technical requirements so that appropriate action can be taken.
4. Provide expert support and advice to NHS Board incident and outbreak investigation exercises. This will include attendance at relevant outbreak control meetings and close working with, for example, Infection Control and Estates teams in order to ensure appropriate corrective action. Demonstrating excellent communication skills in expressing highly technical information which is easily understood by a wide range of stakeholders.
5. Provide expert support and advice to IRIC investigations. This will include excellent communications and close working relations with the IRIC team at HFS, attendance at meetings and providing expert on-site support and guidance, for example, to Infection Control and Estate teams in order to ensure appropriate corrective action. To participate in the investigation of hazards and defects in engineering systems including the provision of services for Procurators Fiscal and the Health and Safety Executive (HSE) (if necessary) and taking follow-up action to ensure both that the highest standards in patient and staff safety are achieved and appropriate advice is provided to customers, the Scottish Government and/or Health Facilities Scotland.
6. Required to support the Principal Engineer(s) on the review and commenting of data from the Health Boards relating to the National Design Assessment Process (NDAP), Key Stage Authorisation Reviews, industry safety notification systems and other systems & processes as appropriate.
7. Contribute actively to the generation and review of national standards & guidance via regular contact with policy-making bodies such as Scottish Government, British Standards Institution, HSE and Health Facilities Scotland to ensure Scottish engineering interests are represented and met.
8. Communicate highly complex information to a wide range of stakeholders in a manner such that they are able to implement the recommendations of the SG national engineering agenda requirements consistently throughout all relevant healthcare organisations.
9. Collaborate with the engineering, environmental, decontamination and other services at HFS to ensure an integrated service is provided to customers.
10. Ensuring that Senior Engineer (Specialist) knowledge is up to date, resulting in relevant and accurate advice to colleagues while also ensuring continued professional development and registration.

11. Liaise with NHS Scotland Engineering lead, Principal Engineer(s), SETAG and the National Advisory Groups constantly review customer requirements, promote the effective use of the Authorising Engineering service and contribute to the negotiation of Service Level Agreements to ensure that the service is appropriate to stakeholders' needs and that the resources are available to deliver stakeholder's requirements.
12. Assist stakeholders in the assessment of staff for positions of responsibility in engineering, provide training for Managers, Users, Operators and Test/Maintenance Persons (Competent Persons) where appropriate and assist in the preparation of capital, maintenance, testing and other contracts to ensure that customers can provide consistently high quality, low risk engineering services to the patient.
13. Carry out on site audits of stakeholder's facilities, systems and documentation to current standards and guidance, to provide advice and recommendations to Management and finally to follow up progress with customers to ensure a universally consistent standard of engineering services.
14. Provide up-to-date, independent & impartial advice and problem-solving assistance to all internal and external stakeholders on all relevant engineering matters either on a formal training basis or ad-hoc as required to ensure that current standards and guidance are applied.
15. Lead, as a specialist technical service, the independent evaluation of new equipment, technologies and processes to establish standards to ensure that systems and equipment are safe and appropriate
16. Manage, support and develop trainee Authorising Engineers, Engineers and graduates until such times that they are fully professionally registered and competent to undertake the role independently.
17. Participate and contribute to the work program of the organisation, including Key Stage reviews, site visits, discussion with infection control and Board colleagues as well as external stakeholders.
18. There may be the need to prioritise work to allow the Health Facilities Scotland to respond to national emergencies and/or changes in Scottish Government requests.
19. Provide an audit of the appropriate engineering systems to each NHS Scotland Health Board annually.

7. ASSIGNMENT AND REVIEW OF WORK

Work is assigned by the Principal Engineer. However, the post holder works with a high degree of autonomy at national level and progress meetings take place approximately monthly. There is a requirement for the post holder to formulate long term, strategic planning with a degree of uncertainty due to external stakeholder involvement when assisting with large facilities based projects.

The Senior Engineer (Specialist) accepts professional responsibility for recommending the appointment of Authorised Persons (High Voltage / Low Voltage / Ventilation / Water or medical gas as appropriate) at each NHS Scotland Health Board.

The Senior Engineer (Specialist) shall support the Principal Engineer to provide a central resource of advice and guidance for NHS Scotland on the appropriate discipline and shall provide expert, specialist and professional advice within this field when required. Annual objectives will be set and agreed with the Principal Engineer. Progress with objectives will be reviewed jointly with the post holder and the Principal Engineer twice a year. The post holder will actively engage with and complete personal and corporate TURAS requirements.

The post holder is required to be able to assess, investigate and analyse highly complex technical information and situations and specialist healthcare systems and ideally produce immediate solutions for the customer. This may involve carrying out or organising further troubleshooting, leading investigations and will require clear logical thinking, careful analysis and interpretation of complex data in order to make informed judgements of a range of options, which in turn leads to clear advice and guidance. Working from a large volume of broad health, technical and organisational policies it is the post holder's duty to establish how this information is to be interpreted and conveyed.

In consultation with the Principal Engineer, the broader and longer-term issues and priorities will be identified in line with the national engineering agenda, including changes/updates as they occur. The post holder will decide on methods of dealing with them and will normally generate and schedule their own work programme and time off to achieve a healthy work/life balance.

The post holder will generally be responsible for establishing a yearly programme of planned routine work, but much of the operational work will be driven by project and/or stakeholder requirements, some of which will require planning over a two-year period and the post holder will be required to plan dynamically to allow for such unavoidable programme changes. This may require significant adjustment of plans & strategies, with occasional cancellation of work programmes during the activity, resulting in the requirement to commence the programme from the start.

The post holder will continuously review their work to ensure satisfactory standards are achieved and will brief the Principal Engineer regularly on progress against delivery of projects. The Principal Engineer will review work formally for quality, quantity and the achievement of personal objectives via a system of performance appraisal.

In collaboration with the Principal Engineer the post holder will develop his own TURAS appraisal profile and will be actively involved in his/her personal development.

In collaboration with the Principal Engineer the post holder will develop and follow risk assessments and method statements for various aspects of the role.

Ideas and initiatives designed to improve services, increase productivity or create income will be generated and implemented by the post holder.

8. COMMUNICATIONS AND WORKING RELATIONSHIPS

The post holder requires the highest level of oral and written communication skills to influence and advise NHS Board senior managers at Board Director level. The post holder must communicate highly complex, often sensitive or contentious specialist information to a wide range of disciplines and professions in a manner that is easily understood and accepted in order to overcome resistance and influence peer organisations in order to advance the national engineering agenda. Due to the continuing speed of policy change the post holder is often required to communicate in a hostile, emotive or antagonistic atmosphere and be able to overcome significant barriers to understanding.

The post holder will receive a great deal of highly complex and specialist information from a wide variety of sources, in differing situations, including from national and international experts, professional bodies, and front line practitioners. This often contradictory and incomplete information must be assessed, judged and used to form national operational policy, which may have major financial, public health, patient and user safety and operational consequences for NHS Scotland.

The post holder is required to design and present power-point presentations nationally and internationally to demonstrate implementation of new guidance, educational packages and other works of national interest to a wide range of clinical, technical and scientific delegates numbering up to 300 at a time. Often this requires fielding of unplanned questions due to some of the contentions information conveyed.

The post holder is required to present papers at national and international conferences and other events representing the interests of NHS Scotland. Such presentations will be to NHS Boards, Local Authorities, SGHD and professional institutes.

Internal

- Other Senior Engineers (Specialist), Principal Engineer, Head of Engineering, Engineering Team members, colleagues within HFS, ARHAI and NHS Assure.

External

- Scottish Government Health and Social Care Directorate, HPS, HIS, PHS, NSS Organisations, NES, BSI, Professional Organisations, Devolved health administrations in England, Wales and Northern Ireland.
- NHS Boards including Chief Executives, Estates and Facilities staff, Infection Control nurses and doctors, Authorised Persons, Competent Persons
- Building contractors and specialist sub-contractors, architects and consultants
- The post holder will be expected to attend regular (but not all) UK wide Authorising Engineer Group meetings
- Contribute to national engineering advisory groups e.g. National Electrical Advisory Group.

9. MOST CHALLENGING PART OF THE JOB

A very high degree of technical knowledge, professionalism and strong business ethics are of paramount importance in ensuring that the Engineering policies and technology adopted by NHS Scotland are being applied across the NHS Scotland Estate and optimised in terms of cost, quality and legal compliance.

The post holder is required to interact with and influence colleagues, industry and regulators at Board and national levels to promote the interests of Engineering in NHS Scotland. This entails the deployment of a comprehensive range of auditing, reporting, interpersonal and influencing skills and success is dependent on the effective use of these skills.

In addition, the post holder will:

- Maintain the provision of comprehensive expert advice and leadership to NHS Scotland and other organisations in order that they are able to meet the requirements of the national engineering agenda.

- Anticipating and responding to emerging national policy and legislation, and development of national strategies and guidance in order to assist NHS Scotland and SGHD in achieving their objectives.
- Promoting a culture of good working relationships through partnership working with colleagues, members of staff and other organisations e.g. NHS Boards
- Ensuring that work is done in a timely manner, in line with the national technical requirements and to the customer's satisfaction

10. SYSTEMS

The post holder will become familiar with complex databases and IT systems of different kinds for the gathering of National data on environmental performance and legislative compliance.

The post holder will apply a quality management system (determined by the Strategic Business Unit) to all aspects of the Senior Engineer (Specialist) activity.

- HFS Standard Operating Procedures
- Timesheet, HFS Flexitime and Travel & Subsistence claim documentation - completing, and monitoring.
- Authorising Engineer work recording systems including SLA and customer spreadsheets - completing and monitoring updates.
- QPulse
- Project management software, MS Project planner
- Mind mapping software
- AutoCAD and MS VISIO architectural and engineering drawing software.
- Building information modelling (BIM) software
- National & international, engineering, water, ventilation electrical, construction standards & guidance.
- Advanced Microsoft Office – Word, Excel, PowerPoint, Access & Outlook
- Internet and intranet (HFS/NSS)
- In-house Enquiry database

11. WORKING ENVIRONMENT AND EFFORT

Physical Effort

The post comprises of visits to Health Board facilities and office based tasks; however there is a requirement for frequent travel and driving for periods of several hours. Under the permit restrictions imposed by the respective NHS Board, access to switch rooms, plant rooms and machinery spaces is also required.

In addition:

- Extensive travel by car or train (or flights occasionally)
- Potential for long working days
- The requirement to carry surveying equipment, test equipment, PPE, Lap-top and files meetings, site visits. A requirement to carry out construction, engineering surveys at high levels or in restricted spaces.

Mental Effort

The post requires extended periods of intense concentration, auditing Health Board records, checking technical documentation, technical guidance, policy and safety information, with frequent interruptions. The consequences of mistakes in this can involve danger to health including life, or financial consequences extending to millions of pounds.

In addition:

- Maintaining the provision of comprehensive expert advice and leadership to NHSScotland and other organisations in relation to engineering.
- Anticipating and responding to emerging national policy and legislation, and development of national strategies and guidance to assist NHSScotland and SGHD in achieving their objectives.
- Frequent requirement to concentrate on one particular document, a report or guidance for instance, to completion while contending with regular interruptions.
- Required to be able to concentrate on review or audit of complex documentation while within a noisy industrial environment
- Promoting a culture of good working relationships through partnership working with colleagues, members of staff and other organisations e.g. NHS Boards
- Physical/mental effort in restricted position required for driving a motor vehicle long distances across the UK for periods of approximately 2 - 6 hours at a time and 3 - 4 times/week. Due to location of most places visited (hospitals, clinics, health centres, etc.) public transport is rarely a practical option. Visits can vary from weekly to monthly, dependent on the stakeholder requirements.
- Walking/standing on sites for extended periods of time while carrying out audits or witnessing test procedures (average 3-6 hours weekly)

Emotional Effort

There is an occasional need to discuss inadequate quality of work with contractors or staff, deal with conflicting priorities and be involved in incident investigation which may include personal injury or fatality.

In addition:

- Dealing with adverse engineering related incidents or their results approximately monthly in often highly charged environments where staff are stressed and very anxious due to possible public health implications.
- Often dealing with individuals at all levels who can be aggressive and non-co-operative. This happens on a regular basis and over time can have a detrimental effect on the individual.
- Due to the nature of the post the post holder is often first in line for reaction from the service from changes in policy, standards etc. The individual is required to anticipate and plan a suitable strategy for dealing with these regularly occurring situations

12. ENVIRONMENTAL / WORKING CONDITIONS & MACHINERY AND EQUIPMENT

There is a frequent need for driving significant distances or all day meetings with limited breaks.

There is an occasional need (subject to appropriate risk assessment) to access switch rooms, plant rooms, machinery spaces or confined spaces with loud noise and elevated temperatures.

Dedicated office time is often interrupted due to telephone calls and emails at times resulting in the need to often re-prioritise work activities.

13. QUALIFICATIONS AND/OR EXPERIENCE SPECIFIED FOR THE POST

The post requires having knowledge of, being proficient in, or undertaking training in the following:-

- Chartered Engineer status or chartered microbiologist, with a degree in an appropriate subject, and membership or fellowship of one or more related professional institutes are requirements.
- Extensive post-graduation experience in a field directly related to Healthcare Engineering and highly developed specialist knowledge of the technical and management issues relating to a range of Healthcare Engineering topics.
- The post requires communication of complex, safety critical, potentially costly and sensitive information with senior clinical and managerial colleagues and requires relevant experience.
- A registered IHEEM Authorising Engineer, or equivalent. The post holder shall have undergone a professional review by Institute of Healthcare Engineering and Estate Management (IHEEM) and have passed the Authorising Engineer qualifying course or be able to demonstrate an equivalent level of competence. In addition, the post requires a master's degree (or equivalent) in a relevant subject or, membership of a relevant professional body and completion of any gap training necessary. The post holder must keep up registration. IHEEM re-registration currently takes place every 3 years and requires submission of a CPD log, a professional review and a discretionary interview.

- The post holder will have significant, recent & demonstrable responsible experience:
 - in interpreting and advising on appropriate corrective action;
 - advising estates teams following engineering failures;
 - of the design, planning and maintenance of engineering systems;
 - of working to national standards and guidance and within legislative frameworks e.g. H&S at Work Act, Medical Device Directive/Regulations;
 - of planning own work priorities and influencing work priorities of others.
- The above requires the post holder to have a highly developed, up-to-date working knowledge of specialist engineering subjects, quality systems and legislation/guidance, combined with familiarity with appropriate engineering equipment and systems.
- Ability to contribute, assist and manage large healthcare projects e.g. reviews of practice and research that include all NHS Boards and or Special Boards.
- In addition the post holder should have developed IT/keyboard skills to carry out day to day operations e.g. report writing, database management, mail merging test data and presentations
- The post holder requires to have well developed time management and project management experience/skills to simultaneously carry out the varied Senior Engineer (Specialist) duties effectively.

14. JOB DESCRIPTION AGREEMENT

A separate job description will need to be signed off by each postholder to whom the job description applies.

Postholder Signature:	<input type="text"/>	Date:	<input type="text"/>
Postholder Print:	<input type="text"/>		
Manager Signature:	<input type="text"/>	Date:	<input type="text"/>
Manager Print:	<input type="text"/>		
Manager Title:	<input type="text"/>		

NHS NATIONAL SERVICES SCOTLAND PERSONAL SPECIFICATION

Job Title: Senior Engineer
Grade: Band 8b

REQUIREMENT	ESSENTIAL	DESIRABLE
EXPERIENCE	<ul style="list-style-type: none"> Extensive post-graduation experience in a field directly related to Healthcare Engineering and highly developed specialist knowledge of the technical and management issues relating to one or more Healthcare Engineering topics. 	Knowledge of health services and public health issues
QUALIFICATIONS	<ul style="list-style-type: none"> Chartered Engineer status or chartered microbiologist, with a degree in an appropriate subject, and membership or fellowship of one or more related professional institutes are requirements A registered IHEEM Authorising Engineer, or equivalent. The post holder shall have undergone a professional review by Institute of Healthcare Engineering and Estate Management (IHEEM) and have passed the Authorising Engineer qualifying course or be able to demonstrate an equivalent level of competence. Master's degree (or equivalent) in a relevant subject or, membership of a relevant professional body and completion of any gap training necessary. 	
TRAINING	The post holder must keep up registration. IHEEM re-registration currently takes place every 3	

REQUIREMENT	ESSENTIAL	DESIRABLE
JOB EXPERIENCE	<ul style="list-style-type: none"> • The post requires communication of complex, safety critical, potentially costly and sensitive information with senior clinical and managerial colleagues and requires relevant experience <p>The post holder will have significant, recent & demonstrable responsible experience:</p> <ul style="list-style-type: none"> • interpreting and advising on appropriate corrective action in relation to one or more healthcare engineering system; • advising estates teams following engineering failures; • of the design, planning and maintenance of engineering systems; • of working to national standards and guidance, and within legislative frameworks e.g. H&S at Work Act, Medical Device Directive/ Regulations; • of planning own work priorities and influencing work priorities of others. • highly developed, up-to-date knowledge of one or more healthcare engineering systems, quality systems and legislation/guidance, combined with familiarity with appropriate engineering equipment and systems. • ability to contribute, assist and contribute to large healthcare projects e.g. reviews of practice and research.. • developed IT/keyboard skills to carry out day to day operations e.g. report writing, database management, mail merging test data and presentations • well-developed time management and project management experience/skills to simultaneously carry out the varied Senior Engineer (Specialist) duties effectively. 	
PERSONAL QUALITIES	<ul style="list-style-type: none"> • Highly developed communication skills, both verbal and written • Enthusiastic approach with excellent organisational skills • Proven track record as a team player • Able to work in a multidisciplinary team, establish good working relationships with medical, scientific, admin and other colleagues. • Ability to work to tight timescales and deadlines. 	