####  JOB DESCRIPTION

|  |
| --- |
| JOB IDENTIFICATION |
|  Job Title: **Maintenance Technician (On Call)**Responsible to: **Maintenance** **Supervisor**Department(s): **Estates Department**Directorate: **Corporate Services**Operating Division: **Central Acute Sector**Job Reference: No of Job Holders: **6**Last Update: **Jan 2024** |

|  |
| --- |
| 2. JOB PURPOSE |
| The post holder will be part of a team of multiskilled Maintenance Technicians responsible for the provision of Electrical/Electronic/Mechanical & Plumbing services to meet the needs of NHS Fife Health Board, by operating an efficient and effective Estate Service, within the Board’s healthcare facilities, to ensure the safe delivery of patient care. This will include:- * Delivering a planned maintenance, repair and installations service which represents quality and value for money at all times.
* Providing a safe maintenance service to all plant and equipment and service infrastructure within the healthcare environment.
* Assisting in the development of the Estates function into a customer focused range of services.
* Adopting a flexible, integrated working approach to the delivery of Estates Service.
 |
| **3. DIMENSIONS** |
| The post holder is based within one of these named sectors:* Central Acute Sector
* West Fife Sector
* Central & North East Fife Sector

The specialist healthcare systems referred to throughout this document include steam boilers, fire alarms, air conditioning and ventilation systems, emergency generators, nurse call systems, electrical services, fixed and portable equipment, security access control, catering and laundry equipment, building control and automation, washer disinfectors, endoscopy washers, medical gas plant, specialist water treatment plant. To actively participate in the provision of maintenance services to buildings and services across the NHS Fife Estate and to provide direct technical advice and support services in respect of specialist healthcare and wider engineering plant and equipment, ie plumbing and Mechanical systems. Facilitate the delivery of uninterrupted quality healthcare by providing 24 hour 7 day safe and effective maintenance, repair and development of NHS Fife’s estates (properties and assets).Contribute to the overall strategic direction of NHS Fife. |
| 4. ORGANISATIONAL POSITION |
|  |

|  |
| --- |
| 5. ROLE OF DEPARTMENT |
| To advise on all matters relating to, and the provision of a safe, comfortable and statutory compliant environment, taking into account good practice and health and safety, for the effective provision of state of the art clinical care for our patients.This is achieved by maintaining and delivering an effective Planned Preventative Maintenance programme and reactive repair service with regards to electrical, mechanical, plumbing, medical physics and building infrastructure services, as well as executing installation and commissioning works of critical plant and equipment to support the delivery of all clinical services.To provide management of our utilities whilst providing technical advice towards, and continually investigating means of, energy conservation throughout the organisation.To provide an integral contribution to the continual management & control of Health Associated Infection with respect to the built environment, in compliance with HAI SCRIBE, Health Environment Inspectorate (HEI), & Healthcare Associated Infections Task Force audits and Facilities Management Tool.To provide technical support and expert guidance in the design and implementation of clinical service developments, including development support in the writing of specification & preparation of tender documents through to awarding contracts, planning, organising and executing the projects. |
| 6. KEY RESULT AREAS |
| **General Duties** * Provide a safe and comfortable environment for the provision of clinical care
* Ascertain desired action using acquired skills and abilities to expedite best solution for desired outcome and assist putting solutions into practice
* In depth knowledge of building services infrastructure, including some of the following services:
* Electrical distribution systems (power & lighting)
* Renewable energy systems (Solar Photovoltaic Cells & Air/Ground Source Heating Systems)
* Emergency generating systems
* Steam and condensate distribution systems
* Industrial boilers
* Domestic hot and cold water services
* Heating service (wet systems)
* Heating, Ventilation & Air Conditioning (HVAC)
* Fire alarm systems
* Nurse call systems
* Security access control systems
* In depth knowledge of production services:
* **Laundry**
* Steam boilers & steam generating plant
* Industrial washers
* Hydro washer extractor
* Gas dryers
* Conveyor systems
* Folding plant
* Rolling press
* Programmable Logic Controllers (PLC’s)
* **Catering**
* Catering Production Unit (CPU)
* Steam pans
* Brat pans
* Combi-ovens (Steam/electric cooking)
* Cold storage
* Blast freezer
* Industrial washing plant
* Conveyor belts
* Slicing equipment
* Food preparation equipment
* Refrigeration & cooling systems
* Install and commission machinery and systems using installation manuals to ensure safety and in compliance with health and safety, and statutory regulations, that benefits and provides a safe environment for the user and patient care.
* Interpret detailed manufacturers installation manuals and specification, technical data, wiring diagrams, and schematic drawings for building services, systems, plant and equipment.
* Complete planned preventative maintenance in accordance with organisational and manufacturers recommendations, using appropriate tools, test equipment, and recording details of work carried out, to prevent breakdowns and maintain optimal operational ability.
* Respond to breakdowns, evaluate situation and take corrective action to ensure minimal disruption and damage.
* In depth effective use of BMS (Building Management System) computer to set parameters and record data on a wide range of building services to provide correct environmental conditions throughout NHS Fife sites and provide an early warning of service faults (medical gas, heating, water, power, ventilation etc).
* Maintain repair & commission patient related equipment & services such as washer disinfectors, Operating lights and Tables, Dental Chairs, Medical gas, plant etc. to maintain and ensure there is a safe environment for staff and patients in these areas.
* Carry out checks, repair, test and maintain specialised multi-faceted hospital equipment to the required standards as per Scottish Health Technical Memorandum(s).
* Measure up jobs for new installations and alterations, check plan drawings & on site plans, work out best route to run supplies and services, measure up & advise Supervisor of materials required to complete work.
* Perform a wide range of the work of other crafts in accordance with the common craft structure, i.e. basic joinery work, painting, etc.

**Electrical Duties*** Carry out Electrical maintenance within healthcare facilities in statutory compliance of the Electricity at Work regulations (1989) and the Current BS7671, 18th Edition IEE wiring regulations, while working to the operational procedures set out in the NHS Scotland Electrical Safety Code of Practice Low Voltage Systems, Scottish Health Technical Memorandum (SHTM) 06-02, to ensure a safe environment and to maintain good quality and safe electrical systems for patient treatment. (Revalidation training required every three years).
* Fault finding and analysis within complex control systems and equipment in a safe, effective manner using fine tools and calibrated measuring equipment as required in order to minimise future breakdowns and keep hospital running efficiently
* Inspection, testing and verification of fixed wiring systems contained within healthcare facilities, in statutory compliance of the Electricity at Work Regulations (1989) and compliance of the current Guidance note 3 BS7671 18th Edition Wiring Regulations, utilising calibrated test equipment to maintain safe working environment within hospital sites
* Run, test and maintain emergency back-up generators to ensure continuity of clinical services for patients and staff in event of an electrical mains failure both Off- Load and On-Load and be competent in all aspects of emergency procedures in the event of loss of Electrical Mains
* To undertake hazardous “Live Electrical Working” practices
* Mandatory first Aid duties for working with electricity; to level of competence and training to meet requirements of safe code of practice for working with electricity

**Mechanical Duties*** Survey plant and equipment for, safety, soundness and establish maintenance to be undertaken.
* Work on and maintain safety of pressurised systems such as steam, compressed air and hydraulic systems etc in compliance with statutory Pressure Systems Regulation 1998.
* Verify integrity and monitor heating and ventilation systems utilising calibrated test equipment to maintain a safe working environment within hospital sites
* Working with external competent inspection agency to prepare for and support the statutory inspection and re-validation of:-
	+ **Pressure Equipment Regulations 1999 & Pressure Systems Safety Regulation 2000**: covering Steam/MTHW boiler & sterilisation plant, compressed air plant, pressurised storage vessels & safety valves i.e. Boilers, Calorifiers, heat exchangers for the provision of heating, hot water and compressed gas services to hospital properties.
	+ **Lifting Operations & Lifting Equipment Regulations 1998 (LOLER):** Passenger lifts, Patient lifting equipment & Industrial lifting equipment.
* Work as a highly skilled competent person to maintain Medical Gas Piped Systems & associated gas supply plant & equipment in compliance with Scottish Health Technical Memoranda (SHTM 02-01) Pt B: Operational Management to ensure a safe supply for patient use. Following completion of one week’s formal training and certification and appointed in writing by the MGPS authorised person (One week Refresher Training and revalidation required every three years).
* Carry out checks of medical gas plant including main liquid oxygen tanks, nitrous oxide and medical air manifolds, vacuum and medical air compressors and obtain the necessary formal qualifications named above to provide safe delivery of medical gases to all patients.
* Carry out checks and repairs of medical gas outlets in all wards including intensive care and high dependency units, theatres etc. Liaise with ward sisters & ward staff and re-assure patients as work carried out at bed-head units. Understand permit to work systems & interact with authorised persons & ward sister to make sure there is minimum disruption to patients & staff. Make sure all work is carried out to the standards required in hospital technical memorandums & pharmacy quality control.
* Check and maintain laminar flow and safety cabinets using specialised measuring equipment to ensure safety of operators

**Plumbing Duties** * Participate in the development and delivery of water management regime to maintain, control, monitor & record that all plant, distribution system and stored product are within safe operating limits to ensure a high quality of potable water for use within a clinical environment. In compliance with;
	+ - HSE Approved Code of Practice (ACOP) L8, mandatory guidance;

“The control of Legionella Bacteria in Water Systems” and * + - Scottish Health Technical Memorandum (SHTM) 04-01: Water safety for healthcare premises; Pt B: “Operational Management”
* Carry our routine mandatory water quality monitoring and inspection duties as detailed in the above guidance documents.
* Ensure that only approved water fittings and materials are installed in NHS Fife potable water systems; as approved by the Water Regulations Advisory Scheme (WRAS) under the “Water Fittings and Materials Directory”
* Monitor & record water meter readings to identify usage patterns, which will enable proactive identification and repair of leaks or resolution of high consumption
* Provide service as competent person for natural gas installations, Gas Safe 2 week’s full time training, certification and 1 year on the job consolidation training & development required. (refresher training every 5 years)

**Health & Safety Duties*** Training in & continual development of Health and Safety requirements relating to the provision of Estates services, to ensure personal safety and maintain a safe environment for staff and patients
	+ Asbestos awareness (NHSF safe system of work Policy & Procedures)
	+ Confined spaces (NHSF safe system of work Policy & Procedures)
	+ First aid training required for all staff
	+ Working at heights (NHSF safe system of work Policy & Procedures)
* Work to all NHS Fife Board H&S policies & procedures
* Carry out risk assessments to ensure own safety and safety of others
 |

|  |
| --- |
| 7a. EQUIPMENT AND MACHINERY |
| * Basic electrical tools: - pliers, screwdrivers, cable cutters etc.
* Specialised electrical tools: - insulated tools, crimping pliers, MICC cable facing off tools, data cabling connectors etc.
* Specialised electrical meters: - avometer, voltage multimeter, insulation resistance meter, RCD tester, loop impedance meter, current sensing tong tester, hand held computer logger system for portable appliance tester. Hydrometer
* Welding & metal burning equipment
* Personal protective equipment: - hard hat, goggles, gloves, ear defenders, disposable coveralls, safety harness and lanyards (for working at heights) etc.
* Pillar drills, metal grinders, lathe, jigsaws, hydraulic lifting apparatus etc.
* Steam & high pressure hot water & low temperature hot water boilers & associated plant
* Domestic hot water generation, storage and distribution plant
* Cold water distribution plant
* Supply & extract ventilation plant & distribution systems
* Air compressors, air receivers & distribution systems
* Standby diesel electricity generators
* Fire alarms & Intruder alarms/Security systems
* Gas detection monitors & associated equipment in confined spaces
* Gas analysers
* Lifts & hoists
* Medical gases plant
* BMS controls to component level, actuators, sensors, controllers etc
* Laundry equipment
* Catering equipment
* Beds, mobility aids etc
* Operating theatre tables & equipment
* Telephones, iPad & pagers.
 |
| **7b. SYSTEMS** |
| The post holder will use and/or maintain the following systems:\* Low voltage distribution and lighting systems keeping the hospital buildings in a safe working environment.\* Fire alarm systems to ensure all fire regulations are met and maintained.\* Nurse call systems to ensure patients every need.\* Medical gas systems meeting all regulations.\* Equipment controlled by the building management systems (valves, motors, air handling units etc) ensuring that the hospitals heating and ventilation etc is complying with the necessary regulations.\* Steam boiler systems providing steam for heating and cooking facilities to the hospital.\* Specialised mattress systems providing comfort to patients confined to bed.\* Computer Aided Facilities Management (CAFM) System eg MiCad, portable appliance testing, legionella recording, sub-contractor’s portals for engineering reports/feedback etc.\* Patients hoists to assist staff in the lifting of patients.\* Passenger lifts for transporting staff, visitors, patients and material etc.\* Emergency generator systems to make sure of continual electrical supply to the hospital.\* Uninterrupted power supplies and battery back-up systems to prevent any interruption of electrical supply to designated critical areas and/or apparatus.\* Catering equipment for the cooking and storage of staff and patients food.\* Domestic appliances for the cleanliness and hygiene of the hospital.\* Hospital laundry equipment i.e. washing machines, tumble dryers etc.\* Calorifiers ensuring healthy water supply throughout the hospital.\* Technical libraries, to be able to extract information to facilitate repairs.\* Statutory records systems eg Estates Asset Management Systems (EAMS)\* Permit to work safety systems, i.e. live working permits, roof access etc.\* Safe removal of trapped persons in lifts.\* Hydraulic waste compactor and clinical waste bin washing system.\* Hydrotherapy pool plant and equipment.\* Street lighting.The post holder will be responsible for record keeping of various systems throughout the establishment, and will also participate in the "labour management scheme". |

|  |
| --- |
| 8. ASSIGNMENT AND REVIEW OF WORK |
| The Post holder Works unsupervised and is responsible for daily decision making on priority of workload, and during emergencies Co-ordinates with clinical staff to ensure that patient care is uncompromised in the event of a loss of electrical, mechanical or plumbing services during essential fault finding and analysis.The Post holder: * works without supervision and, during emergencies, is required to make critical decisions on technical solutions which impact on clinical services by carrying out assessment and condition appraisal of utility services, plant and equipment, and makes decisions whether equipment is safe for use by patients and staff.
* Implements defined contingency plans/arrangements to ensure continuity of clinical service in such circumstances. Effectively communicates technical and safety issues resulting from such decisions with nursing and medical staff to support effective continuity of clinical service.
* Regularly makes technical and safety decisions, including independently when on call, on methods of repairing and maintaining plant and equipment.
* Is required to work both independently and as part of an effective team.
* Will test, maintain, diagnose faults and repair a variety of complex, multi-faceted equipment such as: Building Management Systems, Sterilizers, nurse call, medical gas, laminar flow and operating theatre equipment.
* Is responsible for undertaking Periodic Inspection and Testing, compiling and issuing reports and certificates.
* Will make decision on economic value of repair or replace at components level.
* Will undertake self risk assessments, identifies risks and plans work safely around these.
* Will make technical reference to Estates Officer on specialist topics as required to deliver an effective service.
* Will liaise with Theatres, Wards and Departmental Staff for access to clinically sensitive areas review and agree working arrangements.
* Proposes changes to working practices through consultation with management and implements agreed changes.
* Examines and inspects faults in plant and machinery, establishes and recommends how faults may be repaired and discusses with managers /heads of departments if it is financially viable or if new equipment is needed and if any other considerations are required e.g. effect on wards/theatres/patient etc.
* Will participate in an emergency service out of hour’s on-call rota, receiving notification of events from the duty estates officer. The post holder usually resolves such requests using own initiative and experience. The post holder will require to cover on call for periods of colleagues sickness and annual leave.
 |

|  |
| --- |
| **9. DECISIONS AND JUDGEMENTS** |
| Although instruction and advice are available from management the post holder is expected to plan, organise and prioritise proactive solutions to suit the needs of the service, applying skills, experience and judgement to minimise any risk to patients, staff, visitors and self which could occur due to a failure of systems.The post holder is expected to operate unsupervised using own initiative to establish the performance of a system and to compare, analyse and interpret the results to determine the appropriate remedial action. When dealing with essential repairs out-with normal working hours (on-call or overtime), the post holder will use his own judgement and make decisions to resolve problems and facilitate an efficient outcome. |

|  |
| --- |
| 10. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB |
| \* Ensuring high standards of work are achieved at all times.\* Keeping up to pace with technology in the electrical field.\* Ensuring standards of service are maintained and improved.\* Carrying out work within time constraints.\* To be adaptable to change in the division. |
| **11. COMMUNICATIONS AND RELATIONSHIPS** |
| The post holder will:* Have the ability to interpret and communicate complex information to technical and non technical staff.
* Provide training, technical advice & support to trainee’s, maintenance assistants, fellow colleagues & specialised contractors, clinical staff and managers.
* Communicate and relate with all levels of staff and patients, relating to investigation of reported failures & planned maintenance tasks and the direct impact these may have on service continuity.
* Overcome barriers to understanding when explaining the technical tasks that are to take place and how they impact on the ward/patients.
* Consult with clinical staff to establish working restrictions in relation to the control of risk of infection.
* Communicate with internal Estates management, peers & external specialist contractors to support a wider team approach to resolving complex estates service issues to minimise adverse impact on clinical service provision.
* Communicate with delivery drivers, and suppliers to ensure that the materials and equipment are directed to the correct destination for installation and commissioning in a timely manner to minimise adverse impact on clinical service delivery.

  |

|  |
| --- |
| **12. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB** |
| **Physical skills:*** Use of fine hand tools and test equipment, manual dexterity, workshop machinery skills, keyboard skills

**Physical effort :*** Manual handling for periods greater than 20 minutes on a frequent basis.
* Occasional movement of Heavy Plant & Equipment, with or without the aid of lifting equipment for long periods within awkward locations.
* Ongoing requirement to exert moderate physical effort, i.e.: carrying heavy tool bags for periods greater than 20 minutes.
* Climbing stairs and ladders.
* Crawling, stooping and lifting objects
* Driving Estates transport between various sites

**Mental demands:*** Immediate technical assessment required.
* Frequent Concentration required in stressful situations and can be occasionally prolonged.
* Stress of being on call and being randomly disturbed during these periods where frequent concentration is needed and work pattern is unpredictable due to the range of plant and possible breakdowns which can occur.
* Working under pressure during Emergency Response to critical service failures

**Emotional demands:** * Frequently working in Wards, Theatres & Intensive care adopting a caring approach with very ill and distressed, as well as, terminally ill patients and their relatives, diplomacy when dealing with difficult situations and uncooperative staff.

**Working conditions:*** Daily freezing conditions from both outside and internal chiller plant to very high ambient temperatures in the boiler house and other heating plant located within confined spaces.
* Frequent exposure to Hazardous materials and body fluids during routine maintenance & repairs
* Daily working in highly unpleasant conditions i.e.: noise, smell, noxious fumes, body fluids, cramped and confined spaces.
* Some exposure to hazards i.e. Accident and Emergency Dept, Mental Health Wards
* Regularly working on “live” electrical systems, confined spaces i.e. plant rooms, roof spaces, underground ducts, voids, above pipe work and ducting etc. where areas are dusty, oily, very high humidity, noisy etc. Working at height on ladders/scaffold, roof tops etc.
 |

|  |
| --- |
| 13. KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB |
| The post holder would be expected to have:* Served a recognised apprenticeship/training programme in Electrical, Mechanical engineering or Plumbing, equivalent to SVQ Level 4 with significant experience.
* A City and Guilds or NC equivalent in Electrical, Mechanical Engineering or Plumbing certificate, or an equivalent level of experience.
* Knowledge of procedures for mechanical and gas maintenance, and repair of electrical equipment; BTEC/HNC Level plus relevant post apprenticeship training or equivalent experience.
* Attend training courses as required by Estates Management and NHS policies, procedures The post holder must undergo specialised training in systems and equipment to gain the in depth theoretical knowledge required to comply with numerous laws, national guidelines and standards. In order to fulfil these requirements within a health care environment, the post holder requires training and regular re-certification in order to maintain Continuing Professional Development (CPD) of their competency and expertise on revised regulations. e.g.
	+ Low Voltage SHTM 06-02 (One week training and certification and appointed in writing by AP, revalidation training and certification every three years) plus BS7671 IEE wiring regulations
	+ Mandatory first Aid duties for working with electricity; to level of competence and training to meet requirements of safe code of practice for working with electricity
	+ Level 3 C&G 2391 Award in the Inspection, testing and verification of fixed wiring systems.
	+ Level 3 Awards in the In-Service Inspection and Testing of Electrical Equipment (PAT) C&G 2377 Pt 1 and the Management Requirements for the Maintenance of Electrical Equipment C&G 2377 Pt 2.
	+ Medical Gas Piped Systems (MGPS) SHTM 02-01 Pt b, training (One week training and certification and appointed in writing by AP, revalidation training and certification every three years)
	+ Natural Gas installations (Gas Safe Registration) (Two week training and certification, refresher every five years)
	+ Pressure System regulations 1998. etc;
* Have successfully completed a recognised course of Multi skilling training to enable full flexible working across all 3 disciplines
* Designated individuals will require undertaking training to be certified as a Competent Person in one or more of the following. This list is not exhaustive however represents the scope of duties that may require to be undertaken
* Gas (Gas Safe)
* Medical Gas Pipeline Systems
* Sterilisers
* Confined Spaces
* Water Management
* Electrical Inspection Testing
* Building Management Systems
* Low Voltage Systems
* High Voltage Systems
* Ventilation and Air Conditioning
* Working Knowledge of National NHS Scotland Technical Standards, “Scottish Health Technical Memorandums (SHTMs)” operational & management procedures.
* Ability to work unsupervised.
* A wide range of experience gained over at least five years working in an industrial environment, carrying out repairs and maintenance to buildings, plant and equipment, similar to that of a major hospital complex.
 |
|  |

|  |
| --- |
| **14. JOB DESCRIPTION AGREEMENT** |
| Job Holder’s Signature: Head of Department Signature: | Date:Date: |



**RECUITMENT AND SELECTION STANDARDS**

**PERSON SPECIFICATION FORM**

Post Title/Grade: **Maintenance Technician / Band 5**

Department/Ward: Estates & Facilities/Estates

Date: Jan 2024

|  |  |  |  |
| --- | --- | --- | --- |
|  | **ESSENTIAL** | **DESIRABLE** | **MEASURE** |
| **Experience** | Be a competent tradesman with significant experience in the installation and maintenance of plant associated with building maintenance. | To evidence ability to work as a competent person in other trade disciplines such as electrical, mechanical, plumbing  Experience in a hospital maintenance environment with exposure to all aspects of the key result areas. | Application form & Interview |
| **Qualifications/****Training** | A recognised and registered Electrical, Mechanical, Plumbing craft apprenticeship.HNC in trade discipline or equivalent level of experience.Certified training in BS7671 IEE 18th Edition Regulations (Electricians only)Legionella / L8 awareness (Mechanical/Plumbing posts only) | Certified as Competent Person in working with electrical distribution systems, medical gases, ventilation plant, legionela controls, asbestos  | Application form.Production of certificate at Interview |
| **Knowledge** | Knowledge of a variety of electrical, mechanical and plumbing systems, installations, and plant and equipment, used within a healthcare environment, demonstrating a competent understanding of each. | A wide knowledge of Health and Safety policies/procedures appropriate to a healthcare environment  | Application form & Interview |
| **Skills** | Self organizational skills. Ability to use a wide variety of tools and equipment. A level of English language competency and communication skills necessary to perform this role safely and effectivelyFamiliarity with Microsoft software and general computer literacyFull driving licence | Technical problem solving skills. Be able to carry out duties of other trades within designated limits.A sound level of English language competency and communication skills necessary to perform this role safely and effectively | Interview |
| **Aptitude** | Able to articulate well, with good team, inter-personal, communication and training skillsCommitment to enhancing customer servicesDisplays an objective outlook, with proven problem solving techniquesAwareness of Health and Safety requirements | Ability to interpret a range of technical drawings and manufacturer’s instructions and communicate with external suppliers of goods and services | Interview |
| **Other e.g. Team Player, Be able to travel** | The post holder must be able to operate unsupervised and may work at times across the whole of the NHS Fife estate. A full driving license is essential therefore.They must project a positive and professional manner and attitude at all times. | Assertive | Interview |