



**HEALTH & SAFETY COMMITTEE
PWYLLGOR IECHYD A DIOGELWCH**

DYDDIAD Y CYFARFOD: DATE OF MEETING:	10 January 2022
TEITL YR ADRODDIAD: TITLE OF REPORT:	Policy 434 - Medical Gas Policy
CYFARWYDDWR ARWEINIOL: LEAD DIRECTOR:	Andrew Carruthers, Director of Operations
SWYDDOG ADRODD: REPORTING OFFICER:	Paul Evans, Assistant Head of Operations

**Pwrpas yr Adroddiad (dewiswch fel yn addas)
Purpose of the Report (select as appropriate)**

Ar Gyfer Penderfyniad/For Decision

**ADRODDIAD SCAA
SBAR REPORT**

Sefyllfa / Situation

The Health & Safety Committee (HSC) is requested to approve the Policy 434 Medical Gas Policy.

The report provides the required assurance that Policy 190 – Written Control Documentation has been adhered to in the review of the above-mentioned written control document and therefore the document is in line with legislation/regulations and can be implemented within the Hywel Dda University Health Board (HDdUHB).

Cefndir / Background

The policy outlines how the organisation will manage and maintain medical gas pipeline systems in line with current legislation. It is the policy of HDdUHB to ensure that all medical gas systems comply with the relevant statutory and industry standards. Furthermore, that systems are adequately managed, maintained, fit for purpose to offer maximum resilience and safety.

Argymhelliad / Recommendation

The Health & Safety Committee is requested to approve Policy 434 Medical Gas Policy for a further two year period.

**Amcanion: (rhaid cwblhau)
Objectives: (must be completed)**

Committee ToR Reference: Cyfeirnod Cylch Gorchwyl y Pwyllgor:	Approve organisational Health and Safety Policies, Procedures, Guidelines and Codes of Practice (policies within the scope of the Committee).
Cyfeirnod Cofrestr Risg Datix a Sgôr Cyfredol: Datix Risk Register Reference and Score:	This discipline covers a variety of operational risks that have been scored and identified on the Datix system.

Safon(au) Gofal ac Iechyd: Health and Care Standard(s):	2.1 Managing Risk and Promoting Health and Safety
Nodau Gwella Ansawdd: Quality Improvement Goal(s):	Protect Patients From Avoidable Harm From care
Amcanion Strategol y BIP: UHB Strategic Objectives:	All Strategic Objectives are applicable
Amcanion Llesiant BIP: UHB Well-being Objectives: Hyperlink to HDdUHB Well-being Objectives Annual Report	10. Not Applicable

Gwybodaeth Ychwanegol: Further Information:	
Ar sail tystiolaeth: Evidence Base:	The content of this policy is developed utilising expert advice, with reference to legislation and guidance documentation.
Rhestr Termau: Glossary of Terms:	Contained within the body of the report.
Partïon / Pwyllgorau â ymgynhorwyd ymlaen llaw y Pwyllgor Iechyd a Diogelwch: Parties / Committees consulted prior to Health and Safety Committee:	Medical Gas Group Members and NHS Wales Specialist Estates Services NWSSP-SES – Authorising Engineer for Medical Gas Systems.

Effaith: (rhaid cwblhau) Impact: (must be completed)	
Ariannol / Gwerth am Arian: Financial / Service:	There are direct financial consequences associated with the content of this Policy. This is in the form of estates related mechanical infrastructure backlog and the necessary ongoing statutory funding to continue with testing and maintenance of medical gas systems.
Ansawdd / Gofal Claf: Quality / Patient Care:	There are direct patient care consequences associated with medical gas systems across HDdUHB.
Gweithlu: Workforce:	There are direct legal responsibilities for staff (workforce) associated with this policy, particularly staff who have been appointed by HDdUHB to ensure effective maintenance arrangements are in place.
Risg: Risk:	There are a variety of related risks associated with medical gas systems, which are individually referenced in the Datix system, complete with the necessary mitigation plans and further actions to be implemented.

Cyfreithiol: Legal:	HDdUHB has implicit legal responsibilities as defined by 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 published guidance documentation such as Health Technical Memorandum (HTM) 02-01 Medical Gas Pipeline Systems.
Enw Da: Reputational:	There are potentially significant reputational and damaging consequences on HDdUHB particularly where there is clear evidence of failings as a result of non-compliance with medical gas systems.
Gyfrinachedd: Privacy:	Not Applicable
Cydraddoldeb: Equality:	The equality impact assessment for this policy has been included for information.

SUMMARY EQUALITY IMPACT ASSESSMENT – 434 – Medical Gas Policy

Organisation:	Hywel Dda University Health Board
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Proposal Sponsored by:	Name:	Paul Evans
	Title:	Assistant Head of Operational Facilities
	Department:	Estates Department

Policy Title:	Medical Gas Policy
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Brief Aims and Objectives of Policy:	<p>The aim of this policy is to empower a structured procedure and reporting process, for the management and control of the Medical Gas Pipeline Services (MGPS) within the Health Board. Adhering to this policy and subsequent documentation, such as (Health Technical Memorandums HTM, Health Building Note, Health and Safety Approved Codes of Practice “ACop” and Health and Safety Guidance “HSG) will ensure continued compliance for Hywel Dda University Health Board (HDdUHB).</p> <p>This will involve the continued implementation of a multi-disciplinary group to be known as the Medical Gas Group (MGG) and all relevant stakeholders such as key nursing staff, estates maintenance and porters, etc.</p> <p>The objectives of this policy are to implement appropriate arrangements and management protocols, in order to ensure that HDdUHB’s MGPS infrastructure remains continually safe and effective to meet patient care needs.</p>
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Was the decision reached to proceed to full Equality Impact Assessment?		No ✓
	If no, please give reasons - The Policy has no direct relevance to duties under the Equality Act 2010, having a neutral impact on protected groups. A trawl of similar policies in other Health Boards in the UK indicated a similar outcome.	
If no, are there any issues to be addressed?	Yes ✓	No
	Copies of the Policy in alternative formats may be made available on request.	
	Review December 2021 Language in the Policy requires changing to be gender neutral.	
Is the Policy Lawful?	Yes ✓	The Policy complies with Health and Safety legislation
Will the Policy be adopted?	Yes ✓	The Policy will be adopted.
Are monitoring arrangements in place?	Yes ✓	
	The Policy will be subject to regular reviews to assess its performance and implementation. Any complaints received in relation to equality, diversity and human rights received following implementation of the Policy will be addressed on an individual basis and appropriate action	

	taken.
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Who is the Lead Officer?	Name:	Andrew Carruthers
	Title:	Director of Operations
	Department:	Operations
Review Date of Policy:	December 2021	

Signature of all parties:	Name	Title	Signature
	Paul Evans	Assistant Head of Operational Facilities	December 2021
	Alan Winter	Senior Diversity & Inclusion Officer	16 th December 2021

Please Note: An Action Plan should be attached to this Outcome Report prior to signature



Bwrdd Iechyd Prifysgol
Hywel Dda
University Health Board

Medical Gas Policy

FOR H&S APPROVAL

Policy Number:	434	Supersedes:	N/A	Classification	Corporate
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Version No	Date of EqIA:	Approved by:	Date of Approval:	Date made Active:	Review Date:
V2	12/2021	Health and Safety Committee			1 year

Brief Summary of Document:	The aim of this policy is to outline the necessary mandatory requirements for the management of Medical Gas Pipeline Systems (MGPS) installed within all HDUHB's premises.
Scope:	This policy applies to staff involved with MGPS and related equipment as defined in Health Technical Memorandum (HTM) 02-01. It applies throughout the HDUHB to all fixed medical gas pipeline and manifold systems, liquid oxygen storage plant, medical vacuum systems and anaesthetic gas scavenging systems as well as to medical gas cylinders; their storage, transportation and setting to work.
To be read in conjunction with:	Site specific operational maintenance procedures for medical gas 144 – Maintenance Policy 341 – Prescription and Administration of Emergency Oxygen in adults 010 – Health and Safety Policy

Owning Group	Medical Gas Group (Chair – Head of Operational Facilities Management)
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Executive Director:	Andrew Carruthers	Job Title	Director of Operations
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Reviews and updates		
Version no:	Summary of Amendments:	Date Approved:
1	New Policy	24/5/2016
2	Full review	10/3/2020
3	Revision of Policy – included additional references to section 10.24 for Covid-19 alerts.	10/12/2021

Glossary of terms

Term	Definition
HDUHB	Hywel Dda University Health Board
MGPS	Medical Gas Pipeline System
HTM	Health Technical Memorandum
Clinical Engineering	Clinical Engineering
HBN	Health Building Note
NHS	National Health Service
AP MGPS	Authorised Persons Medical Gas Pipeline System
HSWA	Health and Safety at Work Act
CEO	Chief Executive Officer
QC MGPS	Quality Controller Medical Gas Pipeline System
BLD	Board Level Director

DP	Designated Person
DDP	Deputy Designated Person
OM E/W	Operations Manager East and West
AE MGPS	Authorising Engineer Medical Gas Pipeline System
AVSU	Area Valve System Unit
CP MGPS	Competent Persons Medical Gas Pipeline System
MHRA	Medicines & Healthcare Products Regulatory Agency
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences
HoO	Head of Operations
BS EN ISO	British Standard European Norm – International Standards Organisation
DNO	Designated Nurse Officer
MGG	Medical Gas Group
BOC	British Oxygen
CAP/DPT	Capital Projects and Discretionary Project Teams
FST	Fire Safety Group

Keywords	Maintenance, Oxygen, Medical Gas, Vacuum.
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1 Introduction

The Hywel Dda University Health Board, hereinafter referred to as the HDUHB recognises its responsibility to implement in full, the safe management of the Medical Gases in accordance with the statutory requirements, current guidelines and best practice.

This policy and procedures document outlines the expectation of the HDUHB for the standards to be provided by the organisation. It also sets out how the organisation will meet its statutory duties to its stakeholders, and provide guidance to staff (both clinical and non-clinical) about how they should act in given situations.

The Medical Gas Pipeline Systems (MGPS) provides a safe, convenient and cost-effective supply of medical gases to points where these gases can be used by clinical and nursing staff for patient care. This document sets out the system of control and assurance expected by the HDUHB of its MGPS management. All users of the MGPS and those responsible for its management within the organisation are to adhere to this standard for any related activity.

2 Policy Statement

The purpose of this policy is to enable the HDUHB to maintain a safe and consistent approach to the transportation, storage, setting to work and administration of medical gases and to provide assurance to the Board that a robust system is in place.

3 Scope

The scope of this policy comprises of all the buildings currently owned or occupied (under a full maintenance lease or otherwise) by the HDUHB. A full list of properties/buildings and status of occupation is available on request from the Health Board's Estates Department.

This policy is designed for the use of all staff involved with MGPS and related equipment as defined in Health Technical Memorandum (HTM) 02-01. It applies throughout the HDUHB to all fixed medical gas pipeline and manifold systems, liquid oxygen storage plant, medical vacuum systems and anaesthetic gas scavenging systems as well as to medical gas cylinders (including that of Pathology and Dental Medical Gas requirements) their storage, transportation and setting to work.

The management and responsibility of the MGPS infrastructure for the HDUHB resides with the Estates department.

Equipment connected to the terminal units is not covered by this policy other than where its mode of use may affect system operation or safety. The user departments with support from the Clinical Engineering department are responsible for the specification, purchase, maintenance and mode of use of any equipment connected to the MGPS (Appropriate consultation with the respective MGPS Authorised Person is still expected).

4 Aim

The aim of this policy is to empower a structured procedure and reporting process, for the management and control of the HDUHB's medical gas infrastructure, in order to satisfy current legislation and guidance, such as Health Technical Memorandum 02-

01 Medical Pipeline Systems – Operational Management (HTM) and other relevant Health Building Notes (HBN's). This will involve the continued implementation and communication of a multi-disciplinary group to be known as the Medical Gas Group (MGG) and all relevant participating stakeholders.

To achieve the aim of this policy and as required by Health Technical Memorandum best practice NHS engineering guidance 02-01 the HDUHB will undertake to:

- Make appointments for responsibility such as Authorised Persons and Competent Persons.
- Identify and assess sources of risk through effective management arrangements.
- Remove sources of risk whenever possible and only manage risk appropriately if it becomes the only option.
- Prepare appropriate written maintenance documentation for managing the medical infrastructure for minimising risk.
- Train staff to understand the risks and how to fulfil their roles and responsibilities as appropriate.
- Only use service providers that can demonstrate capability and competence.
- Maintain records in accordance with guidance of all training, policies, associated procedures, risk assessments and monitoring and testing.
- Regularly review performance and provide information to promote continued diligence on compliance.
- To enable standardisation in the provision of safe systems of work for patients, staff and public by defining training requirements and standardising the medical gas permit to work the system.
- To ensure that all HDUHB employees understand their specific roles and responsibilities with regard to medical gases.
To ensure best practice is observed in the provision of medical gas services to the patient.
- Control, safe storage, transportation and use of Medical Gas Cylinders

5 Objectives

The objectives of this policy are to implement appropriate arrangements and management protocols, in order to ensure that the HDUHB's medical gas infrastructure remains safe and fully functioning for the use of patient services.

6 Medical Gas Use

Any compressed gas and vacuum supplies to general engineering workshops and pathology department equipment are separate from the general MGPS and are NOT included in this policy, although the general principles of safety embodied here should be applied to all compressed gas and vacuum systems.

Medical gases must not be used for non-medical purposes, other than as a test gas for medical equipment.

7 Operational Management Procedures

This policy must also be read in connection with the individual operational system requirements and system descriptions for each main hospital acute site and any site within that locality with a MGPS installation. The AP's will be fully responsible for the updating of these local procedures.

Vol 1: Withybush General Hospital.

Vol 2: Prince Philip Hospital.

Vol 3: Glangwili General Hospital.

Vol 4: Bronglais General Hospital.

8 Statutory Requirements

It is the HDUHB's policy to ensure there are adequate procedures in place to fully comply with all statutory requirements with respect to Health and Safety and any Medical Gas guidance.

9 Relationship with Other Policies

This Policy should not be considered in isolation. The following Policies should also be taken into account:

- Health and Safety
- Contractor Control Policy
- Asbestos Policy
- Fire Safety Policy
- Maintenance Policy
- Confined Space Policy
- Infection Control
- Near Patient Equipment
- Manual Handling
- Medicines Policy (Acute, Mental Health, Learning Disabilities and Community Services).
- Prescription and Administration of Emergency Oxygen in Adults Guidelines

10 Responsibilities

10.1 Employers Duties

The HDUHB as employers have a general duty under The Health and Safety at Work etc. Act (HSWA), 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

10.2 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.

10.3 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 11 on Page 19.

10.4 Chief Executive's Responsibilities (CEO)

The CEO has ultimate management accountability for MGPS, including the allocation of resources and the appointment of key personnel. Day to day management and control of the MGPS is delegated to the nominated medical gas Authorised Person's (AP's) (MGPS) respectively.

The CEO (or appointed deputy) will appoint in writing all AP's (MGPS) after recommendation by the Authorising Engineer (AE) (defined below). The CEO will also appoint in writing one or more Quality Controllers (QC)(MGPS) on recommendation of the Head of Medicines Management.

The CEO has delegated specific responsibilities as follows:

- The AP's at each acute site are responsible for the day to day management of the MGPS and implementation of this policy.
- Head of Medicines Management – pharmaceutical quality control and cylinder stock management.

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

A board level director responsible for Estates and Facilities Services will be assigned as the Designated Person (DP) with responsibilities for Medical Gas as defined under HTM 02-01 Part B 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.

10.6 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 Medical Gas Services. This will be an official appointment in writing following assessment and recommendation from the externally appointed Authorising Engineer for Medical Gas Pipeline Systems.

The operational estates structure must ensure that effective and robust medical gas safety management arrangements are in place in order to meet the legal requirements.

10.7 Operations Manager (s) East and West Hard & Soft FM (OM - E/W)

The OM – E/W are 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.

10.8 Authorising Engineer (AE (MGPS))

The AE is an appropriately qualified engineer with a minimum of incorporated engineer status (I.Eng), equipped with at least 5 years relevant professional experience, together with attendance at an accredited Authorising Engineer course and Authorised Person (MGPS) course within the last 3 years.

This person will have specialist knowledge of MGPS, in particular the MGPS for which an Authorised Person (MGPS) will assume responsibility on appointment. They act, and are employed, independently of organisations submitting potential Authorised Persons (MGPS) for assessment.

Duties and Responsibilities:

- To assess the suitability of prospective Authorised Persons, for appointment within the HDUHB.
- Reviewing the management systems of the MGPS, including the Permit to Work System annually.
- To hold summary details of plant pipeline and site records for each hospital within the organisation.
- Monitoring the implementation of the Operational Policy and Procedures.
- Recommending after satisfactory evaluation to the Chief Executive or his nominate representative, those persons deemed suitable to be Authorised Persons (MGPS).

10.9 Authorised Person (AP (MGPS))

The HDUHB must be fully supported by trained and authorised staff, based at each of the acute hospital sites. This will ensure that operationally resources are available to cover core times (such as 8:00am to 4:00pm), as well as during on call arrangements. The HB must therefore ensure that there is a minimum of three nominated AP's located at each of the acute sites.

One of the AP's on each of the acute sites will be designated as the co-ordinating senior AP (CAP) for MGPS, as a consequence they will be the responsible officer for the day to day management of the MGPS and implementation of this policy for the sites they control. The decision to nominate the senior AP will rest with the individual operations managers (east and west).

The AP Credentials

The AP (MGPS) is an appropriately qualified engineer to a minimum of HNC level or equivalent in an engineering discipline and at least 3 years relevant professional experience. They will also have successfully completed an accredited AP (MGPS) training course. In addition, will have been assessed as suitable by the AE and appointed in writing by the CEO (or appointed deputy).

A minimum of three APs (MGPS) are required at each acute site. The AP's (MGPS) are listed in the site operations folders at each acute site.

Each AP (MGPS) must have sufficient site knowledge and experience together with adequate resources, they are also responsible for the management / upkeep of the as-fitted drawings of the complete medical gas infrastructure, asset list of key infrastructure equipment, such as compressors, effective key registers, key safe procedures and the permit to work system (MGPS), etc. to manage the systems safely.

The AP (MGPS) is the primary lead in all matters relating to the MGPS. Specifically his duties and responsibilities will include:

- The safe and efficient day-to-day management of the MGPS system, in accordance with the statutory requirements, current guidelines and best practice.
- To be responsible for the Permit to Work System, including the issue of Permits to Competent Persons (MGPS) for all servicing, repair, alteration and extension work carried out on the existing MGPS.
- To establish and maintain a Register of Competent Persons (MGPS) and Specialist Contractors after assessing their suitability for appointment by the HDUHB.
- To annually review each Contractor's and Person's continued inclusion in the register. The register is to be retained at each acute site and managed by the AP.
- To be responsible for the supervision of work carried out by Competent Persons (MGPS), for the standard of that work and the documentation provided.
- To ensure that the Hospital's MGPS maintenance specification and schedule of equipment (including all plant, manifolds, pipework, valves, terminal units and alarm systems) are kept up to date.
- To ensure that appropriate safety warning signs are prominently displayed in accordance with current requirements, guidelines, best practice and to ensure these include emergency contact numbers appropriate to the area and MGPS installation.
- To ensure that all valves and AVSUs are correctly labelled and that any changes to departmental names, functions or details are recorded as soon as changes have taken place both on the valve/AVSU label and the corresponding as fitted drawings and valve charts.
- To liaise closely with Designated Medical/Nursing Officers, the Quality Controller (MGPS) and others, who need to be informed of any interruption or testing of the MGPS. This can be via the Medical Gas Group.
- To provide technical advice to those responsible for the purchase of any medical equipment that will be connected to the MGPS, in order to avoid problems with capacity and flow rates.
- In accordance with HDUHB's policy on provision of services, to provide advice on the provision and/or replacement of MGPS central plant and associated systems (The Estates Department holds overall responsibility for the provision and maintenance of MGPS services within the HDUHB, key items of plant replacement will be raised at MGG meetings.).
- To organise such training of Estates staff (and other staff if requested) and/or transfer of MGPS information as required.
- To prepare or commission compliance surveys of the MGPS and associated risk assessments. To propose remedial actions arising from such surveys and risk assessments. To monitor compliance and risks and repeat surveys and

assessments as necessary. A summary of outstanding non-compliances are to be tabled at the Medical Gas Working Group Meetings.

- To appoint after due examination, hospital based Competent Persons (MGPS)
- To follow incident and accident DATIX reporting procedures as defined by any relevant NHS, MHRA and/or statutory guidance (RIDDOR, Device Alerts, Hazard Notices etc.).

With regard to work carried out under a permit to work, the AP (MGPS) will:

- Liaise with all other departments in sufficient time prior to work commencement, to establish temporary supply requirements and contingencies.
- Assess the Level of Hazard and prepare a suitable permit.
- Obtain permission from the Designated Nursing Officer or Designated Medical Officer for interruption to supplies/work on system.
- Explain the detail of work to the competent person.
- Affix “Do Not Use” or other prohibition notices/devices to affected terminal units.
- Supervise the isolation of the system or part that work is to be carried out on.
- Supervise the final connection and purging with working gas.
- Supervise appropriate engineering validation and verification tests.
- Witness QC identity and quality tests.
- Obtain acceptance for system re-instatement/completion of work.
- Remove “Do Not Use” or prohibition notices.

10.10 Assistant Head of Operations & Operations Compliance Officer

Will have 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 as far as reasonably applicable.

This will also include the management of risk registers and the bidding of statutory capital funding to address actions.

Furthermore, they are 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.

10.11 Competent Person (CP (MGPS))

All Competent Persons (MGPS) are Craft Persons, either directly employed by the HDUHB, or registered and employed by specialist contractors.

All CP's (MGPS) directly employed by the HDUHB shall have satisfactorily completed an appropriate training course and be sufficiently experienced and familiar with the MGPS before being appointed by the CAP or AP (MGPS) responsible for that particular site. Training and appointment should be refreshed every 3 years.

All CP's (MGPS) employed by specialist contractors shall have satisfactorily completed an appropriate training course and be sufficiently experienced and familiar with MGPS before being appointed by their line manager. Training and assessment shall be refreshed every 3 years. In addition, all contractors shall be evaluated and selected by the site Authorised Person (MGPS). They shall ensure that they are registered to BS EN ISO 9000:2001, BS EN ISO 13485 with clearly defined registration criteria relevant to the services provided. All personnel responsible for managing a

specialist contractor's Competent Persons shall have completed the same training and evaluation as Authorised Persons (MGPS). Copies of contractor information will be retained by the AP (MGPS).

Duties and Responsibilities:

- To report to the Authorised Person (MGPS) prior to commencement of work on the MGPS each day.
- To carry out work on the MGPS in accordance with the relevant installation and maintenance specifications.
- To carry out repair, alteration or extension work, as directed by the Authorised Person (MGPS) in accordance with the Permit to Work System and HTM 02-01.
- To perform engineering tests appropriate to all work carried out and prove to the Authorised Person (MGPS) all test results.
- To carry out all work in accordance with the Health and Safety Policy.
- To carry out cylinder changes on primary supply manifolds and associated ESM's.
- Ensure that the manifold room is kept clean and tidy, reporting any inappropriately stored items to the AP. Ensure that all removed cylinder seats and other rubbish are promptly taken from the stores and properly disposed of.
- On completion of a change of cylinders on a manifold, record the activity on the log sheets provided.

With regard to work carried out under a permit to work, the CP (MGPS) will:

- Accept instruction from the AP and acknowledge responsibility for the work.
- Acknowledge familiarity with site fire and safety requirements.
- Isolate systems only under direct supervision of the AP.
- Confirm that only the intended section(s) of pipework are isolated.
- Carry out only such work as detailed on the permit including final connections.
- Confirm completion of work and notification to AP.
- Carrying out appropriate engineering validation and verification tests as required by and under direct supervision of the AP (MGPS).

10.12 Quality Control pharmacist (QC (MGPS))

It is the responsibility of the CEO to appoint, in writing, on the recommendation of the Head of Medicines Management, one or more Quality Controllers with MGPS responsibilities.

The QC (MGPS) will be an appropriately qualified and experienced individual and shall be appointed by the regional quality control pharmacist and entered on to the national QC (MGPS) register.

The QC (MGPS) shall have received specific post graduate training covering the responsibilities and duties required with regard to MGPS, which shall be refreshed every five years. The QC (MGPS) may also attend part of, or the entire Authorised Person training course, but this is not a set requirement in the HTM.

The AP (MGPS) is responsible for informing a QC (MGPS) of any planned or emergency high hazard works and organising attendance as required.

Duties and Responsibilities:

- To assume responsibility for the quality control testing of the medical gases throughout the MGPS as required.
- To liaise with the AP (MGPS) in carrying out specific quality and identity tests on the MGPS in accordance with the Permit to Work System and relevant Pharmacopoeia Standards.
- Carrying out final identity and quality tests on the system witnessed by the AP.
- Declaring that testing is complete and that satisfactory results have been obtained.
- Advising the Medicines Management Lead that gases under their control meet specification.
- To advise the Head of Medicines Management of the results of all tests carried out on the MGPS and any other findings that could affect the integrity or performance of the MGPS.
- To carry out quarterly tests for quality and identity of any medical gases manufactured on site in liaison with the AP (MGPS).

10.13 Hospital Pharmacy Department

Duties and Responsibilities of the Hospital Pharmacy:

- Order supplies of cylinders of medical gases and special gas mixtures for the hospital.
- Receive delivery notes for compressed gas cylinders and bulk liquid deliveries, check against invoices, received and pass invoices for payment.
- Maintain a record of cylinder rental charges and pass rental invoices for payment.
- To examine and archive any “Certificates of Analysis” for medical liquid oxygen and unlicensed medical gases as are made available to the HDUHB by medical gas suppliers.
- To ensure that cylindered and piped medical gases purchased by the HDUHB are prepared under an appropriate MHRA manufacturing authorisation.
- Ensure that other gases and gas mixtures comply with manufacturers’ product licences.
- To assume responsibility for the quality control of medical gases throughout the MGPS.
- To ensure clinicians or authorised prescribers prescribe medical gases appropriately.
- Pharmacy department should monitor quantities of cylinders supplied and collected by the supplier, and investigate any discrepancies.
- Inventory of cylinders in specific local stores.
- Control of cylinders on or off site.
- Undertake audits on cylinders and periodically report findings to the MGG.
- Ensure the storage locations are appropriate and compliant.

10.14 Designated Nursing Officer (DNO)

The DNO is the most senior trained member of nursing staff on site or responsible for a selected area, and will need to liaise with the AP (MGPS) on any matters affecting MGPS within their area of responsibility. ALL planned work on the MGPS will have been previously agreed with the DNO and must be carried out under the MGPS Permit to Work System.

Depending on the level of hazard, the DNO could be:

DNO	Authority Level for Hazard
The Clinical Site Manager (Day or Night)	Planned work requiring a “Low or High” Hazard permit to work and emergency isolation.
Senior Duty Nurse in charge of a Ward or Department	Planned work requiring a “Low Hazard” permit to work
Ward Manager or Deputy	Planned work requiring a “Low Hazard” permit to work

The DNO will give permission via the Permit to Work Form, provided by the AP (MGPS) for any planned works.

- The Permit to Work will be signed by the DNO, at the start and end of the work.
- The DNO will act as coordinator in the event of more than one ward/department being involved in a planned work.

The DNO should ensure that:

- Arrangements are made where required, for the sufficient temporary cylinders to cover the period of the permit to work.
- Patients are not put at risk by any interruption to the MGPS.
- All affected terminal units are appropriately labelled to prevent use as directed by the AP (MGPS).
- On completion of the work the DNO will accept the MGPS back into use and advise other affected clinical areas.

Senior nursing staff on duty that are not acting as DNO shall also ensure that clinical staff under their control are aware of any MGPS work that may affect them and shall understand the clinical/service implications.

10.15 Medical Gas Group (MGG)

The Medical Gas Group (MGG) shall report any medical gas compliance discrepancies to the Health and Safety & Emergency Planning Sub Committee to ensure effective communication is maintained, the MGG should meet regularly (at least quarterly) and must consist of the following individuals:

- Head of Operations (Chair)
- Assistant Head of Operations (Vice Chair)

- East/West Operational Managers
- Quality Controller (QC MGPS)
- The nominated AP (MGPS)
- Assistant Director of Nursing or nominated representative
- Portering Manager or facilities supervisors
- Health and Safety Manager *
- Head of Fire Safety Management *
- EBME Manager or nominated representative
- Appointed AE Authorising Engineer
- Representatives from Pathology and Dental Services
- Anaesthetics Representative *
- Pharmacy Management Representative *

(*) Staff who may be required to attend at specific meeting only.

Other signatories or advisors to this document shall also be invited to join the body when appropriate.

The purposes of this body shall be to determine, communicate and monitor the MGPS policy to enable the effective management of MGPS activities. This will include but not be limited to:

Strategy

- Operational policy and procedures development, distribution and review
- Medical gas safety reports
- Review of systems compliance
- Risk register elements arising from compliance
- Cylinder management
- Training needs evaluation &
- Medical Gas Training Programme
- MGPS upgrade projects (to comply with strategy)
- Capital requirements for infrastructure improvements
- Internal Datix Incidents

Operational

- Planned shutdowns
- Equipment selection
- Cylinder management
- Emergency actions

10.16 Hotel Services - Designated Porter(s)

A Designated Porter is a Porter with particular responsibilities that has received specialist training in the identification, safe handling, storage and management of medical gas cylinders. Refresher training courses must be attended. Arrangements for ongoing training and the record keeping of such will be the responsibility of the east and west operational managers. It must be noted that porter duties and responsibilities may differ per hospital site. However the key duties and responsibilities are defined below. A more detailed description of tasks will be retained in the operational procedures document retained at each acute hospital site.

General Duties and Responsibilities:

- Deliver full gas cylinders from the Cylinder Stores to wards and theatres as requested.
- Return empty cylinders to the empty cylinder storage area as part of the same job of delivery. To maintain a reduced stock level of cylinders as required.
- Ensure that the delivered cylinders are stored in the correct locations in the Cylinder Store, as per the store labelling.
- Ensure that the delivered cylinders are stored safely in the store and are properly secured by chains where appropriate.
- Label and remove from service any “faulty” or “incident” cylinders, subsequently follow procedure for dealing with such cylinders. (Please refer to site procedures for guidance)
- Apply stock rotation principles on a first out basis to ensure that all cylinders are delivered to users are within the “Use before date” as specified by the gas supplier. (BOC, may also support the HB on this in specific areas, this is also contained in the site procedures document).
- Ensure that all flowmeters and regulators that are found to be damaged or out of service are returned to the relevant EBME/Estates Department for repair or replacement.

It is essential that the Designated Porter is trained and works safely at all times, using the appropriate Personal Protective and Manual Handling Equipment and has identified all of the hazards and introduced of a formal risk assessment in order to carry out the activities safely. Personal Protective or Manual Handling Equipment found to be missing, or defective in any way, must be reported to the relevant Operations Manager or relevant deputy.

The Porters will:

- Perform a weekly check on cylinder stocks and report findings to pharmacy (unless alternative arrangements have been agreed locally, i.e. Theatre Porters)
- Accept requests from wards and departments for replacement gas cylinders, and arrange for Designated Porters to deliver cylinders to the point of use and at the same time, return the empty cylinders to the appropriate cylinder store.

10.17 Appointed Contractor (s)

A contractor is the person or organisation designated by management to be procured by the HDUHB for the supply, installation, validation and verification of MGPS. It is essential to ensure that individuals employed have suitable qualifications necessary to undertake the work appropriately, safely and that detailed RAMS for all work activity have been communicated in advance of the work with the HDUHB’s employing manager (person commissioning the work). All contractors must adhere to the principles clearly set out in the HDUHB’s Contractor Control Policy.

10.18 Capital Projects/Discretionary Project Team (CAP) / (DPT)

The CAP and or DPT teams must ensure that appointed designers and installers of MGPS utilise only approved materials in accordance with published British Standards (BS) as described in HTM 02-01.

Collectively, they must consult and agree with the appointed AP as well as the AE (MGPS) on all schemes where adjustments are made to the MGPS infrastructure.

The appointed AE will provide (when officially consulted) input advice to the design process in respect to the construction phase and for the subsequent operational service thereafter.

The CAP and or DPT teams must ensure that for all completed schemes involving medical gas infrastructure changes, the AP MGPS receives all necessary technical documentation, drawings, and schematics for the new installation following official handover.

10.19 Fire Safety Team (FST)

The fire safety team will provide the necessary support and advice in connection with fire safety risks associated with the use of medical gas services across the HB. They will ensure that concerns and or non-compliance activities are documented and communicated directly to the necessary line manager. They may also be required periodically to attend the HB's medical gas group to share such advice and concerns to ensure escalation and control of risk.

10.20 Senior Nurse Manager/Assistant Director of Nursing

It is essential that a senior nurse manager or nominated clinical representative (such as the assistant director of nursing) forms part of the medical gas management team for the HB. They will provide the necessary clinical advice in respect of medical gas usage and issues at ward level and will be a key representative at the medical gas group. They will also be responsible for ensuring that DNO and General Nurse training in respect of medical gasses is kept up to date and current.

10.21 Normal Operation of the MGPS

Medical gases are to be administered according to the prescription or by hospital agreed protocol and the DNO will ensure that the staff within their responsibility are aware of this.

Nursing Management shall ensure that training is provided and that their staff are competent prior to staff taking clinical responsibility for the use of the MGPS.

Refresher must be arranged for and undertaken within agreed timescales.

10.22 Medical Gas Training

The HDUHB's objective is to control work related risks and ensure safe working practices. All training needs relevant to medical gas will be identified by the OM-E/W and a programme of training, monitoring and control will be followed. It is essential that personnel at all levels have a sound general knowledge of the principles, design and functions of MGPS, further, that all staff will be trained in relationship to their particular responsibilities.

The relevant line manager for staff within the areas of responsibility should ensure that all staff have received this training prior to using the MGPS, and that refresher courses are arranged in accordance with the set frequencies. A register of training will be held by the operational managers at each acute site for both AP and CP certification.

Individual training records will be held and used to determine future training events and requirements.

10.23 Emergency work on the MGPS

In the case of an emergency such as fire or a major escape, the DNO shall first determine the usage of medical gases and where necessary make alternative arrangements before arranging/authorising local isolation at the AVSU.

There is no requirement to follow the permit to work procedure to isolate the supply in an emergency, however following such an event, the AP (MGPS) will require the DNO to accept the system back into use by signing a permit to that effect.

If the MGPS is isolated in an emergency, it should never be returned to service without the required tests being carried out by the AP (MGPS) and the QC (MGPS) if appropriate.

10.24 Additional Covid-19 Alert Documents for Reference

[WG SES EFA 2020 004 - COVID-19 Response - Oxygen Supply and Fire Safety.pdf \(wales.nhs.uk\)](#)

[Microsoft Word - AE-VIE info.docx \(wales.nhs.uk\)](#)

[Advice \(wales.nhs.uk\)](#)

11.0 Management & Control Hierarchy

