

Medical Gas Policy

Policy information

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Summary of document:

The aim of this policy is to outline the necessary mandatory requirements for the management of Medical Gas Pipeline Systems (MGPS) installed within all HDUHB's premises.

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.

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:

[144 – Operational Maintenance Policy](#) – opens in a new tab

[341 – Prescription and Administration of Emergency Oxygen in adults](#) – opens in a new tab

[242 – Fire Safety Policy](#) – opens in a new tab

[382 – Estates Ventilation Policy](#) – opens in a new tab

[232 - Manual handling Policy](#) – opens in a new tab

[010 – Health and Safety Policy](#)– opens in a new tab

[020 – Asbestos Policy](#) – opens in a new tab

[186 – Business Continuity Planning Policy](#) – opens in a new tab

Owning group:

Medical Gas And Pipeline Systems Safety Group (Chair – Head of Operational Facilities Management)

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Executive Director job title:

Andrew Carruthers Director of Operations

Reviews and updates:

- 1 New Policy
- 2 Full review
- 3 Revision of Policy – included additional references to section 10.24 for Covid-19 alerts.
- 4 Full review

Keywords

Maintenance, Oxygen, Medical Gas, Vacuum.

Glossary of terms

AE MGPS	Authorising Engineer Medical Gas Pipeline System
AP MGPS	Authorised Persons Medical Gas Pipeline System
AVSU	Area Valve System Unit
BLD	Board Level Director
BOC	British Oxygen
BS EN ISO	British Standard European Norm – International Standards Organisation
CAP/DPT	Capital Projects and Discretionary Project Teams
CEO	Chief Executive Officer
CP MGPS	Competent Persons Medical Gas Pipeline System
DDP	Deputy Designated Person
DNO	Designated Nurse Officer
DP	Designated Person
FST	Fire Safety Group
HBN	Health Building Note
HDUHB	Hywel Dda University Health Board
HoO	Head of Operations
HSWA	Health and Safety at Work Act
HTM	Health Technical Memorandum
MGPS	Medical Gas And Pipeline Systems
MGCG	Medical Gas Cylinder Group
MGPSSG	Medical Gas And Pipeline Systems Safety Group
MHRA	Medicines & Healthcare Products Regulatory Agency
NHS	National Health Service
QC MGPS	Quality Controller Medical Gas Pipeline System
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences
Sub MGPSSG	Sub Medical Gas And Pipeline Systems Safety Group

Contents

Introduction	5
Scope.....	5
Aim.....	5
Objectives	6
Roles and Responsibilities	6
Employers Duties.....	6
Employees Duties.....	6
Responsibility	6
Chief Executive’s Responsibilities	6
Board Level Director (BLD) - Designated Person (DP).....	7
Senior Estates Management – Deputy Designated Persons (DDP)	7
Head of Operational Services	7
Authorising Engineer (AE (MGPS))	7
Authorised Person (AP (MGPS))	8
Head of Engineering and Maintenance.....	9
Competent Person (CP (MGPS)).....	10
Quality Control pharmacist (QC (MGPS))	11
Hospital Pharmacy Department.....	11
Designated Nursing Officer (DNO)	12
Medical Gas And Pipeline Systems Safety Group (MGPSSG).....	12
Sub Medical Gas and Pipeline Systems Safety Group	13
Medical Gas Cylinder Group.....	13
Hotel Services - Designated Porter(s)	13
Appointed Contractor (s).....	14
Capital Projects/Discretionary Project Team (CAP) / (DPT)	15
Fire Safety Team (FST)	15
Senior Nurse Manager/Assistant Director of Nursing	15
References.....	15
Appendix 1- Management & Control Hierarchy.....	17

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 any 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.

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 use.

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 required).

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 And Pipeline Systems Safety Group (MGPSSG) 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:

- Appointments must be made as set out by hierarchy in HTM 02-01

- 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

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.

Roles and Responsibilities

Employers Duties

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

Employees Duties

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

Responsibility

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

Chief Executive's Responsibilities

The CEO has ultimate management accountability for this policy, including the allocation of resources and the appointment of key personnel. Day to day management and control of the MGPS infrastructure is delegated to the nominated Authorised Person's (AP's) MGPS and subsequent Competent Persons (CP's) MGPS employed by the organisation.

The CEO (or appointed deputy, e.g. designated person/deputy designated persons) will appoint in writing all AP's after recommendation by the Authorising Engineer (AE) (defined below).

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

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

Senior Estates Management – Deputy Designated Persons (DDP)

The Director of Facilities, Estates & Capital Management (DFECM) and The Head of Operations (HoO) are collectively responsible within the estates department for ensuring that adequate trained resources and expertise is made available to formulate an estates structure.

They will also collectively act as Deputy Designated Persons (DDP) and are therefore responsible as directed by the DP for nominating in writing, Authorised Persons (AP's) whose duties will be to implement and manage the Health Board's Policy for MGPS Systems. This will be an official appointment of the AP's in writing by the DDP following assessment and recommendation from the externally appointed Authorising Engineer for MGPS Services.

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

Head of Operational Services

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

Authorising Engineer (AE (MGPS))

The AE is an appropriately qualified engineer with a minimum of at least 5 years relevant professional experience, together with the aim of attending 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 their nominate

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 Head of Maintenance and Engineering and/or the Head of Estates Risk & Compliance in consultation with the AE.

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 their 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 And Pipeline Systems Safety 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 MGSG 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 And Pipeline Systems Safety 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.
- Provide full tracing of pipework which must be completed prior to isolation.

Head of Engineering and Maintenance

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.

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 as a minimum of every 3 years, however assessment and appointment may be dependent on MGPS activity.

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, this duty may be shared with those that have received Designated Porter training on the Health Board, and will vary within the HB sites due to the various 24 hour cover arrangements.
- 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 this duty may be shared with those that have received Designated Porter training on the Health Board, and will vary within the HB sites due to the various 24 hour cover arrangements.

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 and under permit.
- Confirm with AP that only the intended section(s) of pipework are isolated.
- All affected terminal units are appropriately labelled to prevent use as directed by the AP (MGPS).
- 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).

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).

Hospital Pharmacy Department - Chief Pharmacist

Duties and Responsibilities of the Hospital Pharmacy - Chief Pharmacist :

- 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 all cylinders (including orphan cylinders) on or off site.
- Undertake audits on cylinders and periodically report findings to the MGSG.
- Ensure the storage locations are appropriate and compliant.

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.
- 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.

Medical Gas And Pipeline Systems Safety Group (MGPSSG)

Medical Gas And Pipeline Systems Safety Group (MGPSSG) shall report any medical gas compliance discrepancies to the Health and Safety & Emergency Planning Sub Committee to ensure effective communication is maintained, the MGSG should meet regularly (at least quarterly) and a comprehensive membership can be found in the T.O.R. along with the purpose of the group.

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, report on future schemes affecting MGPS
- Internal Datix Incidents
- Estates safety alerts
- Patient safety alerts

Operational

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

Sub Medical Gas and Pipeline Systems Safety Group

The HB has formulated a Sub Medical Gas and Pipeline Systems Safety Group (Sub MGPSSG), which is a sub group of the Medical Gas and Pipeline Systems Safety Group, the purpose of the group is to resolve, advice and support on all actions raised by the MGSG and update the tracker that has been developed by the Compliance team. Membership will include: the Authorised Person AP, Compliance Manager and WHTM Compliance officer. The Sub MGSG shall meet twice before the main MGSG, the purpose of the meetings shall be to address key actions raised in the main MGPSSG. The group's membership shall consist of: • Authorised person • Compliance Manager • WHTM Compliance Officer • any other co-opted members as deemed appropriate

Medical Gas Cylinder Group

The HB has convened a Medical Gas Cylinder Group which will provide assurance to the Medical Gas and Pipeline Systems Safety Group. The objectives of the group are to review storage arrangements of medical gas cylinders including health, safety, fire risk and security issues across the health board acute and applicable primary care sites. Reviews will also incorporate stock holdings, new initiatives for efficient stock management and training and education for users. Membership for the group includes clinical and non-clinical representatives and will be led by pharmacy and medicines management. This group will convene two weeks prior to the MGPSSG in order to formally report updates or escalated matters.

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 Head of Maintenance and Engineering & Head of Estates Risk and

Compliance. 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.
- To carry out cylinder changes on primary supply manifolds and associated ESM's, this duty may be shared with those that are Competent Person's on the Health Board, and will vary within the HB sites due to the various 24 hour cover arrangements.
- On completion of a change of cylinders on a manifold, record the activity on the log sheets provided this duty may be shared with those that have received Designated Porter training on the Health Board, and will vary within the HB sites due to the various 24 hour cover arrangements.
- 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 Clinical Engineering 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.
- Ensure that the cylinder store is kept clean and tidy.

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.

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.

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 and Pipeline Systems Safety Group to share such advice and concerns to ensure escalation and control of risk.

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 and Pipeline Systems Safety 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.

References

DfT dangerous goods guidance note 9	Carriage of oxygen cylinders by road
SI 2002/2677	Control of substances hazardous to health Regulations 2002
SI 2002/2776	Dangerous substances and explosive atmospheres Regulations 2002
CH 37	Health and safety at work etc Act 1974
SI 1992/2793	Manual handling operations Regulations 1992
HTM 02-01	Medical gas pipeline systems, Pt A, design, installation, validation and verification
HTM 02-01	Medical gas pipeline systems, Pt B, operational management
CH 67	Medicines Act 1968
SI 1992/2966	Personal protective equipment at work Regulations 1992
SI 1999/2001	Pressure equipment Regulations 1999
SI 2000/128	Pressure systems safety Regulations 2000

SI 2013/1471 Reporting of injuries, diseases and dangerous occurrences Regulations 2013
SI 1992/3004 Workplace, health, safety and welfare Regulations 1992

Appendix 1- Management & Control Hierarchy

