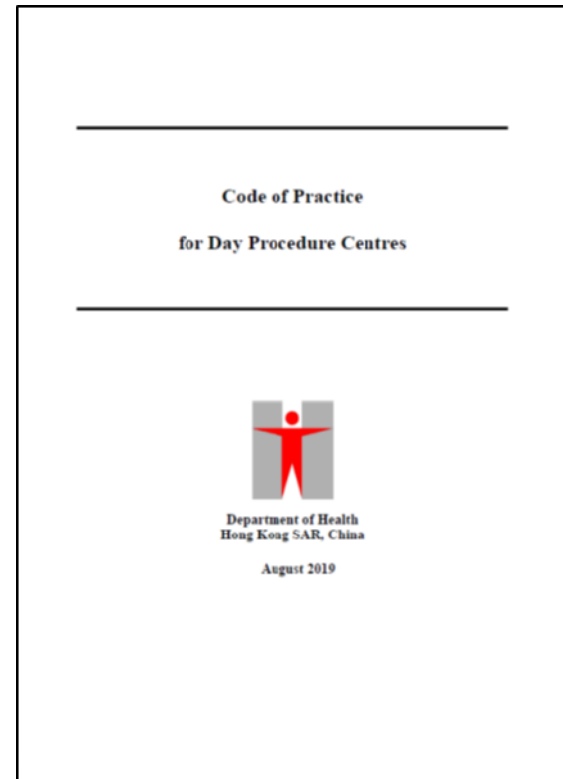


Guidelines for Healthcare Engineering Systems in Day Procedure Centres

29 NOVEMBER 2019

Code of Practice for DPCs

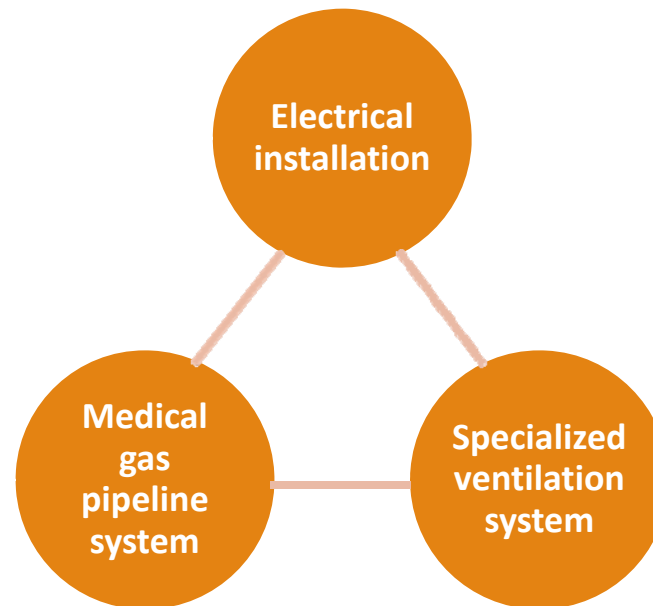
- Sets out standards to be complied by day procedure centres (DPCs)
- Covers staffing, equipment, accommodation, and policies & procedures
- Compliance with the Code of Practice is a licensing condition



The Guidelines

- “Guidelines for Healthcare Engineering Systems in Day Procedure Centres” ([The Guidelines](#)) was promulgated as [Annex III](#) of the Code of Practice
- Provide [general guidance](#) on the [standards and requirements](#) of healthcare engineering systems in DPCs
- DPCs should refer to the Guidelines for design and installation of [new](#) and [additions & alternations](#) of existing healthcare engineering systems
- Feasibility of implementing this guidelines as a regulatory requirement would be [reviewed in 2022](#)

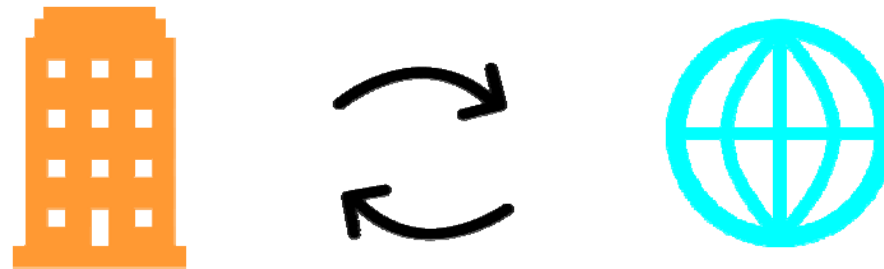
Healthcare engineering systems



- **Essential facilities** to support **safe and effective** delivery of medical services.

Approach

- Take into account:
 - Local and overseas healthcare standards and guidelines
 - Local practice environment
 - Advice by representatives of professional engineering institutions and trade associations



Contents

General Requirements

- Compliance with relevant legislation

Design and Installation

Operation and Maintenance

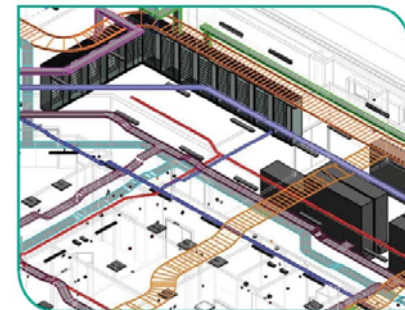


Electrical Installations (1)

- To provide **safe** and **reliable** electrical supply and lighting
- Design and installation are of internationally acceptable healthcare standards, e.g. **HTM 06-01**, or equivalent.
- **Certification on completion** of fixed electrical installation in accordance with Electricity Ordinance (Cap. 406)



Health Technical Memorandum
06-01
Electrical services supply and
distribution
2017 edition



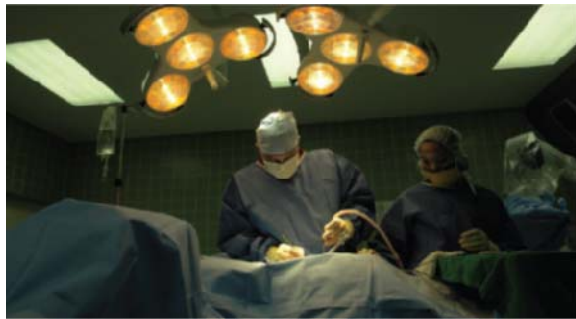
Electrical Installations (2)

- **Critical care area** in DPC:
 - where failure of electrical power supply is likely to jeopardize the immediate safety or even cause **major injury** or **death** of patients or caregivers.
- **Examples:**
 - Operating theatre/room (OT/OR)
 - Recovery area, etc.



Electrical Installations (3)

- **Back-up power supply** to ensure **patient safety** upon loss of normal power supply to **critical care areas**
- Back-up power supply are available for:
 - Critical medical equipment
 - Operating lamps
 - Standby lighting



Electrical Installations (4)

- Back-up power supply can be:
 - Built-in batteries
 - UPS
 - Emergency generators
- Type, rating and back-up time of back-up power supply are selected to meet the back-up power requirements and contingency plan of DPC



Electrical Installations (5)

- Proper operation and maintenance with records
- Backup power are maintained, inspected and tested regularly to ensure its proper functioning upon loss of the normal supply
- Periodic inspection, testing and certification of fixed electrical installation in accordance with Cap. 406

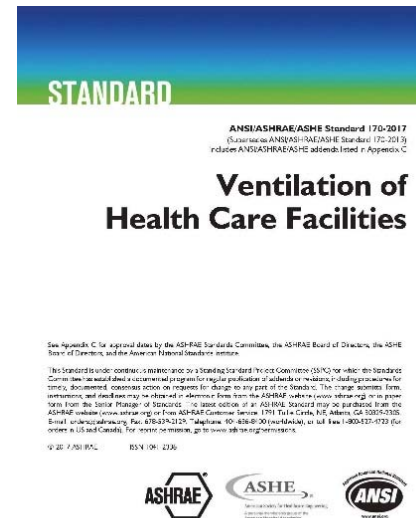
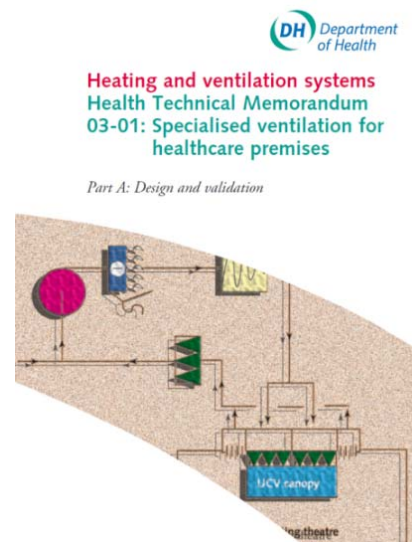


Specialized Ventilation Systems (1)

- Mean the **ventilation systems of operating theatres/rooms (OT/OR)** in DPCs
- Objectives:
 - to prevent spread of airborne infectious disease
 - to prevent and control healthcare-associated infection
 - to dilute and remove contaminants and fumes where used

Specialized Ventilation Systems (2)

- Design and installation are of internationally acceptable healthcare standards, e.g. **HTM 03-01**, **ANSI/ASHRAE/ASHE Standard 170**, or equivalent



Specialized Ventilation Systems (3)

- To provide specialized ventilation areas with appropriate:
 - pressure relationship
 - air change rate
 - filtration efficiency
 - temperature
 - relative humidity
- Air movement generally **from clean to less clean** areas

Specialized Ventilation Systems (4)

Function of space	Pressure	Min. ACH (Outdoor/ Total)	Min. Filter Efficiency	Deign Temp (°C)	Design RH (%)
OT / OR	Positive (+2.5Pa)	4 / 20	MERV-14	20 - 24	20 - 60

- **Recirculating devices with HEPA filters** may be used to achieve the required room ACH, provided the minimum outdoor ACH is supplied
- Air recirculation by means of room units should not be used

Specialized Ventilation Systems (5)

- Individual temperature control
- Low sidewall return or exhaust grilles
- Air flow pattern
- If **outdoor air intakes / exhaust discharge outlets** are installed as part of the DPC installations, they are **properly located** to avoid drawing / recirculation of discharged air back into the building

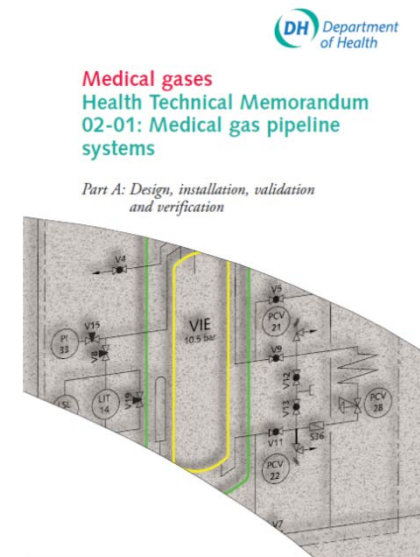


Specialized Ventilation Systems (6)

- Ventilation rate and pressure gradient in operating theatres/rooms are maintained by back-up power supply or, where infeasible, operational policy is established to ensure patient safety
- Subject to infection control considerations, the ventilation systems of the OT/OR may be set back or turned off during periods of non-use, provided that full ventilation is reinstated well in advance of the commencement of operating
- Proper operation and maintenance with records

Medical Gas Pipeline Systems (1)

- To ensure a **safe** and **reliable** provision of medical gases in respect of quantity, identity, continuity and quality of supply
- Design and installation are of internationally acceptable healthcare standards, e.g. **HTM 02-01**, or equivalent
- Storage and use of medical gases and liquefied gases shall comply with the provisions of the **Dangerous Goods Ordinance** (Cap. 295).



Medical Gas Pipeline Systems (2)

- Adequate capacity to meet gas demand
- Back-up sources of medical gas supply to ensure continuity and security of supply of medical gases during normal operation and contingent situations
- Connected to back-up power supply
- Pipeline distribution system to deliver medical gases at the required flow rates and pressure

Medical Gas Pipeline Systems (3)

- Proper provision of **terminal units** for services
- **Gas-specific** connections
- Warning and **alarm** system
- **Testing and commissioning** in accordance with HTM 02-01 or equivalent

Medical Gas Pipeline Systems (4)

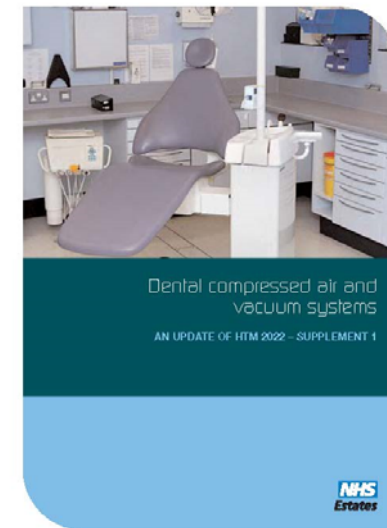
- An **authorized person** appointed for supervising the operation, maintenance, repair and alteration work of MGPS
- Works on MGPS governed by a safety management system (e.g. **permit-to-work**)
- Proper operation and maintenance with **records**
- **Emergency call-out service** arrangement in place with a specialist contractor



Medical Gas Pipeline Systems (5)

For **dental air and vacuum systems (DAVS)**:

- Design and installation are of internationally acceptable healthcare standards, e.g. **HTM 2022 – Supplement 1**)
- Operation and maintenance comply with statutory requirements and observe guidance in HTM 2022 – Supplement 1, manufacturers' recommendations and good trade practices.



Further Information

- Code of Practice for DPCs

<http://www.orphf.gov.hk/s/PmXKz>



- Enquiry

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Thank you!
