1. INTRODUCTION

Health, Safety and Environment (HSE) Fire and Life Safety Preparedness Guidelines by Dubai Healthcare City Authority – Regulatory (DHCR), the regulator of the Dubai Healthcare City (DHCC) free zone, aim to provide guidance for all members of the DHCC Community in safety management to protect people and property in the free zone.

In line with the UAE Federal and local HSE requirements as well as international best practice, DHCR's HSE Department will work closely with the DHCC Community to ensure all necessary measures are in place to respond to any emergencies and to mitigate potential consequences.

DHCR's HSE Department would like to advise the DHCC Community as their HSE Oversight Community Adviser that there is a legal duty and requirement on all Business Partners (BPs) and investors - regardless of the size, activity, occupancy or hazards - to know and familiarize themselves with their statutory duties regarding fire and life safety.

Fire Door Tolerances / Fire Retardant Burn Time (Passive System) to allow sufficient time to evacuate	

Door closed at the time of fire which never penetrated. NOTE: Fire Rated Door, allowing sufficient time for safe evacuation

2. GUIDELINES

2.1 Fire Emergency Preparedness

DHCR HSE is committed to supporting the free zone's Business Partners and investors on Fire and Life Safety emergency procedures to ensure preparedness in the event of an emergency.
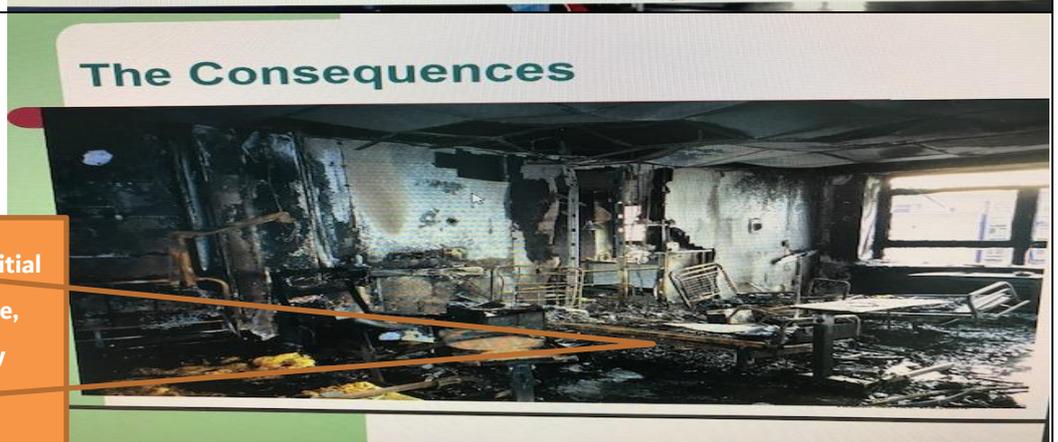
A recent study carried out by UK's National Health Service identified that:

- 53% of staff did not know where the fire extinguisher was located
- 57% were unaware of the fire alarm location
- 76% were unaware of the oxygen shut-off valve
- 67% did not know the procedure to follow in the event of a fire
- 46% would not pull the plug from the main socket in an electrical fire

Case study Before	The Service we provide
Case Study After	The Consequences

10 minutes after initial notification of fire, ward completely destroyed

a. Fire Emergency Plan

All workplaces need a plan for fire emergencies, and quick and effective actions to eliminate harm. During a fire emergency, staff are more likely to respond reliably if they:

- Are well trained and competent
- Take part in regular and realistic fire drill practice / fire safety training
- Have clearly agreed, recorded and rehearsed plans, actions and responsibilities

To be prepared, an emergency plan is essential. The UAE Fire and Life Safety Code stipulates mandatory requirements - a specific emergency plan is prepared and all the occupants are informed about their role in emergency management, which may be inspected by Dubai Civil Defence (DCD) at any time, and will form part of DHCR HSE site visits.

Successful emergency evacuation of any buildings depends on prompt and correct decisions of the occupants and their immediate actions during the **first few minutes** of the incident. Occupants are on their own until the arrival of authorities such as Dubai Civil Defence or Dubai Police.

 All staff should be consulted and informed as follows:

- Discuss what to do in an evacuation
- How to locate and use a fire extinguisher
- What does R.A.C.E (rescue, alarm, contain, and extinguish) mean and its application
- Where the fire protection equipment is located
- Evacuation routes and are they clearly displayed
- Know the assembly points

b. Accountability and responsibility

The updated UAE Fire and Life Safety Code will contain more detail on mandatory requirements for owners / building occupants and specify legal responsibilities in maintenance and repair work for businesses, regardless of size or activity.

c. What does the law say

The UAE Fire and Life Safety Code states that it is the responsibility of the property owner/ partner / facilities manager and any other appropriate personnel appointed for the implementation of the emergency plan and procedure.

IMP: UAE Fire and Life Safety Code puts an onus on EVERYONE.

- It shall be the duty of every person having control over premises to: Take all reasonable measures to guard against the outbreak of fire in premises Provide reasonable fire safety measures for such premises and prepare and provide appropriate fire safety procedures for ensuring the safety of persons Ensure that the fire safety measures and procedures are applied at all times

The DHCR HSE Fire and Life Safety Preparedness Guidelines provide only a summary of what is required. Each organization is required to ensure they have the appropriate, competent adviser with sufficient training, experience and knowledge to ensure compliance with the procedures outlined below.

3.0 PROCEDURE - WHAT DHCC BP / INVESTORS NEED TO DO NEXT

3.1. Steps 1 – 6:

Steps	Business Partners Actions	DHCR HSE Actions
Step 1	Complete the DHCR HSE Questionnaire and return to DHCR HSE Department	DHCR will send the Questionnaire to the DHCC Community
Step 2	Complete Fire and Life Safety Checklist and submit to DHCR HSE Department	DHCR will send the checklist to the DHCC Community
Step 3	Ensure Fire Training Programs are effective	DHCR HSE in collaboration with Dubai Civil Defence can arrange for these trainings at a cost)

Step 4	Ensure fire drills, conducted twice a year, are effective	
Step 5	Fire Protection and Detection Systems are effective and evidence based	
Step 6	Reporting incidents / near misses / dangerous occurrence / unsafe acts	Report any dangerous occurrence / unsafe acts to DHCR HSE for guidance

Step 1: DHCR HSE Questionnaire	**What is the DHCR HSE Questionnaire?** All Business Partners must complete the DHCR HSE Questionnaire which will provide information on the activity within the organization and is a mandatory requirement. This will allow DHCR HSE to prepare a fire risk profile of activities across in the DHCC Community.
Step 2: Fire and Life Safety Checklist	**What is a Fire and Life Safety Checklist?** All Business Partners must complete and return the original checklist to DHCR HSE Department. This is a HSE self-assessment audit tool will allow an assessment of the current fire safety protection systems in operation and to identify any potential gaps to allow the appropriate corrective action.

Step 3 and 4: Fire Training programs and fire drills

What type of training is required to be completed by all Business Partners?

Category	Title of Training	Content of Training	Duration
Level 1 – Mandatory	Basic Fire Safety	• Introduction to fire safety • Fundamentals of public fire safety • Basic steps of fire prevention • Classes of fires • Reporting a fire • Evacuation procedures • Types of portable fire extinguishers	Four hours

			• Safe and proper use of portable fire extinguishers • Maintenance and inspection of portable fire extinguishers	
	Level 2 – Mandatory	Fire Warden	• The mechanics of fire • Fundamentals of public fire safety • Classification of fires • Types of portable fire extinguishers • Safe and proper use of portable fire extinguishers • Maintenance and inspection of portable fire extinguishers • Roles and Responsibilities of a fire warden • Understand the different types of fire safety installations • Emergency escape routes • Conducting fire drills • Workplace fire prevention	Six hours
	Basic	Basic First Aid	• Essential skills • Basic life support • Life-threatening conditions • Secondary survey • Breathing problems • Environmental problems • Nervous system problems • Other medical problems • Other injuries • First aid health and safety	Eight hours

Level 1: Basic Fire Safety Training

The UAE Federal Law No. 505 requires all companies to provide adequate training in fire awareness on the basics of preventive fire safety and firefighting which must be completed, every two years in order to obtain a certificate stating that preventive safety requirements are met by a recognized DCD-approved provider.

Facilities must adhere to enrolling all employees in training on preventive fire safety and firefighting as per the classifications below:

Classification A	10 percent of all employees must be trained on the basics of preventive fire safety and firefighting	If there is only one employee – They must be trained
Classification B	50 percent of all employees must be trained on the basics of preventive fire safety and firefighting	If there are two employees
Classification C	100% of all employees must be trained on the basics of preventive fire safety and firefighting	If there are more than three employees

The training will help:
- Educate the staff on their personal responsibility for fire safety in the workplace
- Have a basic understanding of fire and be able to recognize fire hazards in workplace

- Recognize the fire safety features and equipment provided in workplace and how to use them
- Know the correct procedures for raising alarm and reporting a fire
- Overview of evacuation procedures
- Be familiar with different types of fire extinguishers and their use
- Staff should prepare their own Personal Emergency Egress Plan on how they will evacuate from the building and avoid any confusion in an event of an emergency
- This training does NOT qualify the participant as a fire warden / first responder

Level 2: Fire Warden (also known as fire marshal)

Under the UAE Fire and Life Safety Code, all appointed ire wardens must be full-time staff members and should be familiar with the general operations and hazards on-site as well as the emergency procedures for their respective floors. Two fire wardens must be appointed for each of the fire areas. Two wardens are required in the event that one is unavailable. Fire Warden Training is specialist training in addition to Basic Fire Safety training.

The training will cover the following:
- Fluorescent jacket and access
- Ensure occupants have vacated the building in the event of an evacuation
- Ensure the evacuation maps are posted
- Participate in the development of the emergency plan
- Ensure occupants / tenants / contractors are familiar with the evacuation procedures
- Be aware of individuals with special needs
- Be part of the emergency communication network
- Has the authority to activate the fire alarm system and notify security where there is immediate danger

	- Assist in the evacuation process - Remain at the fire exit door and guide occupants out of the building - Carry out monthly fire safety checks - Familiar with the location of emergency equipment **Fire drills** A fire drill should be conducted every six months, at unexpected times, to simulate fire conditions i.e. one escape route obstructed, no advance warning given other than to involve staff for the purposes of safety. - Evacuation drills must involve all occupants - Evacuation coordinator(s) and fire wardens are expected to perform their assigned duties as if in an actual emergency situation - Evacuation Drill Report forms should be provided to the drill coordinators and fire wardens to make notes during the evacuation drill - Staff attend the designated assembly points
Step 5: Fire Protection and Detection Systems	DHCR HSE will release a Fire and Life Safety Checklist, which Business Partners should complete as a self-assessment to evaluate the program for maintenance / servicing that DHCR will be undertaking. The Fire Protection and Detection Systems guidelines are not an exhaustive list. However, each Partner should conduct a review of all equipment and identify the inspection and testing requirements. More frequent inspection / testing may be necessary where appropriate including conditions such as high frequency fire outbreaks; severe hazard; susceptibility to tampering, damage, vandalism or malicious mischief; and/or locations, which make extinguishers susceptible to mechanical injury such as exposure to abnormal temps, corrosive atmospheres or physical obstructions.
Step 6: Reporting incidents	What should be reported? - Fire doors wedged open / locked / blocked - Smoke / heat detectors covered / obstructed / not cleaned - Fire extinguishers obstructed / blocked

- Overloaded sockets
- Unapproved electrics
- Emergency exits blocked
- Smoking in undesignated areas
- Strange heat / dust /mist /smells / unusual odors
- Excess storage of waste / rubbish
- Stairs wells / lifts / pathways blocked or obstructed
- Flammable material stored in non-flammable presses
- Lack of staff awareness of fire life safety / how to use fire equipment
- Lack of staff awareness of emergency evacuation procedures
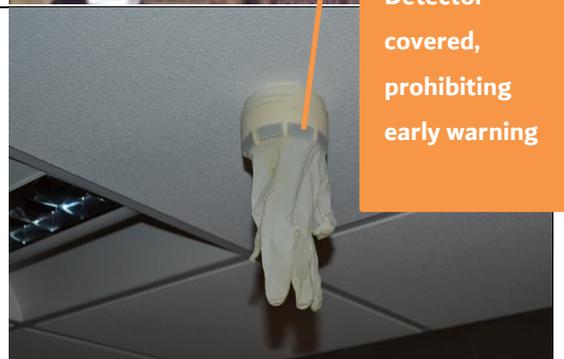- Cleaning chemicals incorrectly stored

Fire Door Wedged Open

Fire Exit obstructed with waste, no escape

Smoke Detector covered, prohibiting early warning

Fire Exit Doors Locked, No Escape

4.0 FIRE PROTECTION & DETECTION SYSTEMS

Fire Protection and Detection Systems	
Type of Fire Systems	**Maintenance / Service of Fire Systems**
Fire Detection and Alarm Systems ('FDAS')	FDAS comprehensive certified safety program and tested active systems as follows: - Smoke detectors - Heat detectors - Fire sprinkler systems - Control panels - Beam detectors - Manual call points - Sounders - Strobe sounders - Interface units - Incorporating break glass units/call points The program requires daily, weekly, quarterly and annual inspections to be carried out for fire detection and alarm systems. A Certificate of Servicing/Testing shall be prominently displayed adjacent to the main control and indicating equipment to indicate the service provider, the service planning and confirming completion of the planned service in compliance with the requirements of required standards. When buildings are not in continuous or daily occupation, it may not be practical to carry out the check every day. In such circumstances the

	weekly inspections for fire alarm and detection systems should be carried out on each occasion that the building is used.
	Quarterly and annual inspections by competent, trained person, as follows: • At least one detector, call point or end of line switch on at least one zone (seek Fire Engineer for guidance on the zones) shall be operated to test the ability of the control • All defects shall be recorded in the log book and reported to the responsible person • Entries in the log book • Batteries should be examined • Batteries, including reserves, shall be tested • Alarm functions of the control and equipment **NOTES:** • It is recommended that during the quarterly/periodic service, a percentage of the detection devices should be tested such that at the end of the annual period all devices have been tested. • On completion of the work, a Certificate of Servicing/Testing shall be given to the responsible person. The certificate shall indicate its validity/expiry date. • Break glass units need not be damaged for test purposes. A test key can be obtained from the supplier of the system.
Sprinkler systems	Weekly tests should be delegated to a person familiar with the functions of the installation. The nominated person should receive basic training from the installer/supplier, to check: • Water and air pressure gauges • Water levels

	• Water motor alarm test
	• Automatic pump starting test
	• Diesel engine restarting test
	• Trace heating and localized heating systems
	Monthly, the electrolyte level and density of all lead acid cells (including diesel engine starter batteries and those for control panel power supplies) shall be checked. If the density is low, the battery charger shall be checked and, if this is working normally, the battery or batteries affected shall be replaced.
	Quarterly, carried out by the installer/supplier, potential hazards and checks should be reviewed as per the following:
	• Sprinklers, multiple controls and sprayers
	• Pipework and pipe supports
	• Water supplies and their alarms
	• Electrical supplies
	• Stop valves
	• Flow switches
	• Replacement
	The following checks and inspection shall be made at intervals of no more than 12 months:
	• Automatic pump flow test
	• Diesel engine failed-to-start test
	• Float valves on water storage tanks
	• Pump suction chambers and strainers
Sprinkler valve	Dry alarm valves - the moving parts of dry alarm valves, and any accelerators and exhausters, in dry pipe installations and subsidiary

	extensions shall be exercised in accordance with the supplier's instructions, and shall be made at intervals of no more than six months. **Commissioning:** First six months and the second at 12 months after completion of the installation.
Sprinkler water tank	All tanks shall be examined externally for corrosion. They shall be drained, cleaned as necessary and examined internally for corrosion and inspections at intervals of no more than three years. **Commissioning:** First six months and the second at 12 months after completion of the installation; tanks installed shall have a minimum 10-year guarantee.
Fire extinguishers	Routine in-house inspections daily and monthly. All points where fire extinguishers are located should be inspected daily. Missing fire extinguishers should be replaced immediately, and if used in a fire, training or otherwise, should be recharged immediately. Damaged extinguishers or hose reels should be replaced / repaired. External approved contractor every six months. A thorough examination of the extinguisher must take place annually. This should involve opening the appliance; examining the body shell internally and externally; and examining all parts and replacing any defective parts, leaving the extinguisher ready for use by a competent, trained person who is familiar with the equipment and with knowledge of any special procedure recommended by the manufacturer.
Fire hose reels	Hose reels should be visually inspected once a month and annual inspection and service. Every five years, all hoses shall be pressurized to maximum working pressure.

	Note: inspections of hose reels and hose systems should be carried out by an appointed person or his representative at intervals depending on environmental circumstances and/or fire risk/hazard.
Fire hydrants	Monthly inspections to be undertaken by Facilities Management Department and annual inspections by a specialist contractor.
Fire mains (dry risers)	Inspections of inlets, landing valves, drain valves, door hinges and locking arrangements to the inlet and landing valve boxes should be inspected every six months. Wet tests be carried out annually when the main can be checked for leaks.
Fire mains (wet risers)	All fire mains should be inspected every six months and annually. In particular, to ensure: • Inlets, landing valves, drain valves, door hinges and locking arrangements for inlet and landing valve boxes are ready for immediate use, and spindles, glands and washers are in a satisfactory condition for wet mains, • Booster pumps and their associated mechanical and electrical apparatus are functioning correctly • Storage tanks are clean and filled with clean water
Fire exit signage / emergency lighting	Tests should be carried out by the specialist contractor as below: • Weekly routine for emergency lighting • Quarterly routine for emergency lighting • Annual routine for emergency lighting

	• Every four years, light level tests shall be carried out to confirm illumination levels (seek guidance from a Fire Engineer) **Note:** When normal lighting fails, the emergency lighting should energize automatically for a minimum time of three hours.
Fire doors	All fire doors should be inspected every six months as follows: • Heat-activated seals and smoke seals are undamaged • Door leaves are not structurally damaged or excessively bowed or deformed • Gaps between the door leaf and the frame are not so small as to be likely to bind, or so large as to prevent effective fire and smoke-sealing • Hanging devices, securing devices, self-closing devices and automatic release mechanisms are operating correctly
Fire alarm control panel	Routine in-house inspection and testing must be completed weekly, daily to check that the panel indicates normal operation
Medical gas pressured systems	• Six-month inspections • Routine quality control tests, plus daily weekly • Two-yearly internal visual inspection • Quarterly quality control testing of medical and surgical air • Every five years full service inspection

All of the above service maintenance requirements need to be certified with retained records, available for inspection.

5.0 FIRE SAFETY COMMON CAUSES OF FIRE:

In a UK National Health Service (NHS) study, it was discovered the main causes of fire in the NHS were:

- Deliberate ignition (27%)
- Smoking (20%)
- Cooking appliances (17%) and
- Equipment failure (electrical) (16%)
- Stockpiling of waste / rubbish, dangerous goods

With regard to specific areas of where fire occurred within buildings:

- 17 percent in clinical areas
- 15 percent in non-patient areas
- 13 percent in communal areas
- 7 percent in food preparation areas

6.0 IMPORTANCE OF FIRE RISK ASSESSMENT

Awareness of the particular requirements of patients, staff and management. Any fire strategy should be specifically designed to address these profiles and to enhance the care provision of the work activity to include:

- Fire prevention
- Fire detection and warning
- Emergency escape and fire fighting

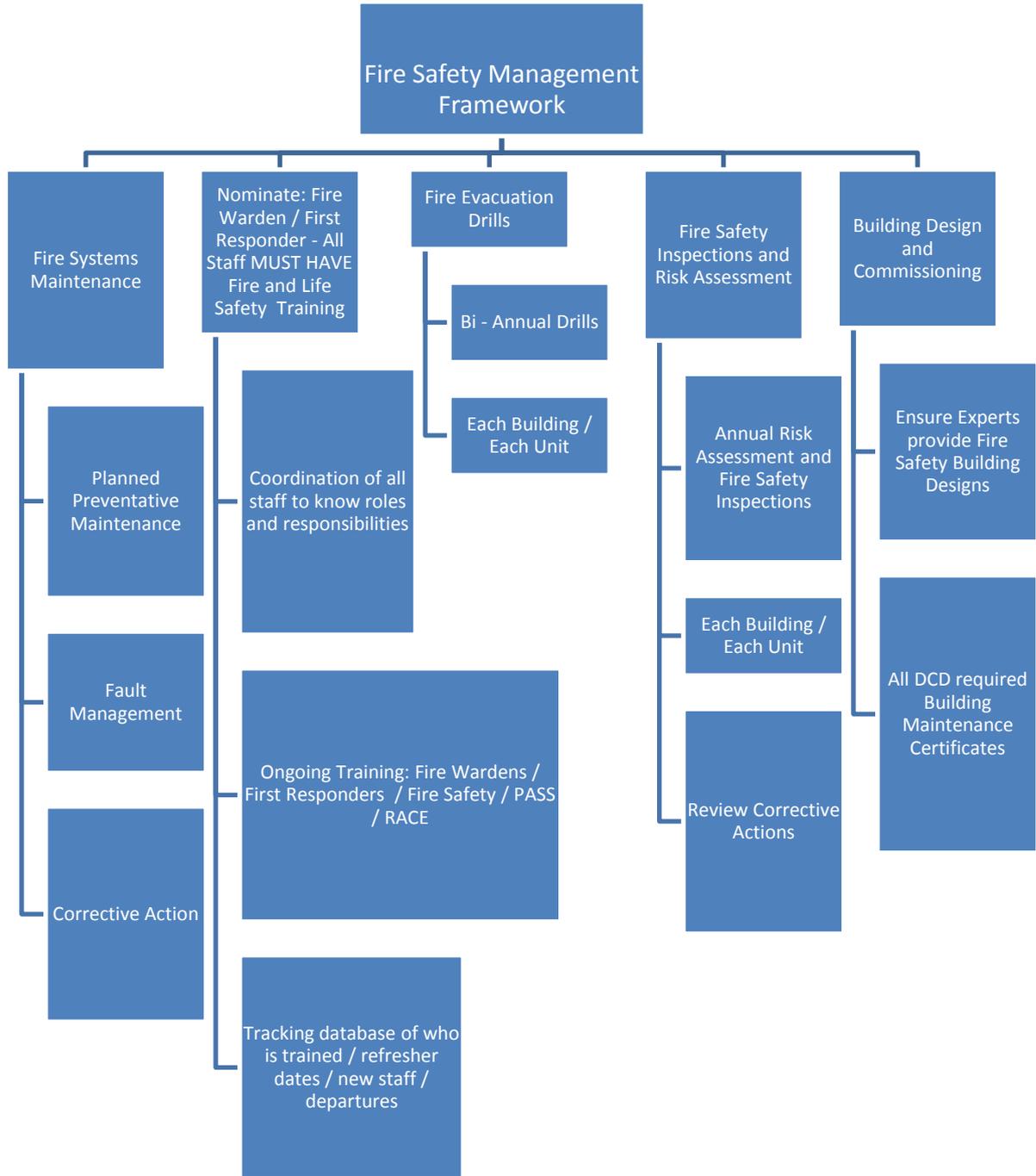Notably, to consider:

- Dependencies / occupancy to include visitors
- Current evacuation protocols and staffing levels
- Existing standard of on-site fire safety management

Risk assessment of the fire hazards, should include:

- Waste management

- Food-related activities

- Electrical systems and portable appliances

- Medical gases (piped and cylinders)

- Storage of goods

- Textile management

	DHCR HSE Fire and Life Safety Preparedness Guidelines	سلطــة مدينــة دبــي الطبيــة Dubai Healthcare City Authority Regulatory - القطاع التنظيمي
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GOVERNMENT OF DUBAI

7.0 FIRE SAFETY MANAGEMENT FRAMEWORK:

Fire Safety Management Framework

- Fire Systems Maintenance
  - Planned Preventative Maintenance
  - Fault Management
  - Corrective Action

- Nominate: Fire Warden / First Responder - All Staff MUST HAVE Fire and Life Safety Training
  - Coordination of all staff to know roles and responsibilities
  - Ongoing Training: Fire Wardens / First Responders / Fire Safety / PASS / RACE
  - Tracking database of who is trained / refresher dates / new staff / departures

- Fire Evacuation Drills
  - Bi - Annual Drills
  - Each Building / Each Unit

- Fire Safety Inspections and Risk Assessment
  - Annual Risk Assessment and Fire Safety Inspections
  - Each Building / Each Unit
  - Review Corrective Actions

- Building Design and Commissioning
  - Ensure Experts provide Fire Safety Building Designs
  - All DCD required Building Maintenance Certificates

For advise and guidance, please contact:

Sarah Mansfield, Senior Manager, Health, Safety and Environment (HSE) Department, Dubai Healthcare City Authority – Regulatory (DHCR) on 04 3838300 (ext 8321) or email Sarah.Mansfield@dhcr.gov.ae.

References:

2011 UAE Fire and Life Safety Code

Annexures:

- B.1 Balcony Terrace & Windows
- A.2 Emergency Action Plans
- A.1.21 Fire Stopping, exterior wall cladding, curtain wall and roofing systems
- Cabinet Resolution No.24 of 2012 Concerning Regulating Civil Defence Services in the State
- UAE Ministerial Resolution No (505) of 2012

References:

- Federal Law 505
- Health Technical Memorandum 05-02 'Fire safety in the design of healthcare premises' – 2014 Edition
- NFPA 101 (all NFPA, where appropriate)