



Abu Dhabi EHSMS Regulatory Framework (AD EHSMS RF)

EHS Regulatory Instrument

Code of Practice

**EHS RI - CoP 7.0 – Fire Prevention,
Planning and Control**

Version 2.0

February 2012

ACKNOWLEDGEMENTS

With gratitude Abu Dhabi EHS Center acknowledges the great support provided by the Executive Council in facilitating the issuance of Abu Dhabi Emirate Environment, Health and Safety Management System (AD EHSMS) and its implementation at Emirate level.

The issuance of the system would not have been possible without the supervision, diligent efforts and productive recommendations of the AD EHS Center Board of Directors.

These documents (Regulatory Instruments) constitute the efforts of the Abu Dhabi EHS Center and the concerned Sector Regulatory Authorities who worked together to integrate all relevant regulatory requirements under *AD EHSMS RF*. The input, contribution and constructive views of all sectors is highly appreciated.

May these documents prove to be beneficial and helpful in system implementation and in expanding the knowledge in the EHS field.

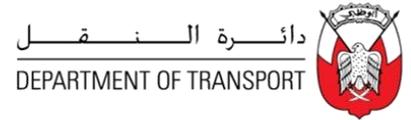


Table of Contents

1.	Introduction	6
2.	Training and Competency.....	6
3.	Requirements	7
3.1	Interpretations.....	7
3.2	Roles and Responsibilities	8
3.3	Fire Fighting Equipment	9
3.4	Fire Risk Assessment	10
3.5	Fire Safety Management Plan.....	10
3.6	Dangerous Substances.....	12
3.7	Prevention of Explosions.....	12
3.8	Emergency Escape Routes.....	13
3.9	Maintenance Requirements	14
4.	References.....	15
	Appendix A – Example Fire Prevention Checks and Tests	16

Preface

This Abu Dhabi EHS Regulatory Instrument was developed by the AD EHS Center as the primary Competent Authority for this topic to set the minimum mandatory requirements.

Every effort was made in developing this document so that it does not conflict with existing local or federal laws and regulations. In case of conflict, requirements of the existing local and federal laws and regulations shall prevail, and all concerned are obliged to bring the same to the attention of AD EHS Center for resolution.

This AD EHS Regulatory Instrument has been developed, reviewed and approved, following the process as described in *AD EHSMS Implementation Guideline: The Integration of EHS Requirements in the Emirate of Abu Dhabi*, by the following stakeholders:

- Abu Dhabi EHS Higher Committee;
- Abu Dhabi EHS Center;
- Environment Agency Abu Dhabi;
- Department of Municipal Affairs;
 - Abu Dhabi City Municipality;
 - Al Ain City Municipality; and
 - Western Region Municipality.
- Department of Transport – Abu Dhabi;
- Abu Dhabi Water and Electricity Authority;
- Health Authority - Abu Dhabi;
- Higher Corporation for Specialized Economic Zones (ZonesCorp);
- Center for Waste Management – Abu Dhabi;
- Abu Dhabi Tourism Authority;
- Abu Dhabi Food Control Authority;
- Abu Dhabi Education Council;
- Regulation and Supervision Bureau; and
- Other Relevant Federal and Local Competent Authorities.

The AD EHSMS consists of the following hierarchy of documents:

- AD EHSMS RF Elements - Mandatory System Requirements

EHS Regulatory Instruments:

- Standards and Guideline Values - Mandatory EHS threshold and exposure levels
- Codes of Practice - Mandatory EHS technical requirements – subject specific
- Mechanisms - Mandatory system implementation processes and procedures

Guidelines:

- Technical Guidelines - Non-mandatory guidance on how to implement an EHS Regulatory Instrument
- AD EHSMS Guidance Documents - Non-mandatory guidance and interpretation of an *AD EHSMS RF* concept and/or principle

Further, this document is not intended to conflict with any contractual obligations in effect at the time of its issuance. However, all future contracts shall adhere to applicable requirements stated herein, and existing long term contracts shall be brought into compliance with its requirements as soon as reasonably practicable as stipulated by relevant subject authorities.

This document will be reviewed periodically as part of the continual improvement cycle.

1. Introduction

- (a) This Code of Practice (CoP) applies to all employer / duty holders within the Emirate of Abu Dhabi. This CoP is designed to incorporate requirements set by UAE and Abu Dhabi regulatory authorities. If requirements of this document conflict with requirements set by another regulatory authority, employer / duty holders are required to follow the more stringent requirement.
- (b) The requirements set out within this CoP are intended to specify the general requirements for fire prevention, control and planning. Specific technical requirements aligned to this CoP are referenced within.
- (c) Employers / duty holders shall ensure that all the relevant legal requirements for the operation/premise have been identified and adhered to in line with the requirements set out within this CoP and the *AD EHSMS RF*.

2. Training and Competency

- (a) Employers shall ensure that EHS training complies with the requirements of:
 - (i) *AD EHSMS RF – Element 05 – Training and Competency;*
 - (ii) *AD EHS RI – Mechanism 7.0 – AD EHS Professional Entity Registration;* and
 - (iii) *AD EHS RI – Mechanism 8.0 – AD EHS Practitioner Registration.*
- (b) Employers / duty holders shall provide training for staff to familiarize them with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting. The training shall include:
 - (i) general principles of a fire;
 - (ii) hazards employed with an incipient stage fire(s);
 - (iii) when to abandon efforts to extinguish a fire and evacuate;
 - (iv) general principles and types of fire fighting equipment;
 - (v) hazards employed with the use of fire fighting equipment; and
 - (vi) steps to be taken in case of fire emergency, location of assembly points & procedure to report superiors.
- (c) Refresher training is to be provided for all authorized and affected employees whenever there is:
 - (i) a change in job assignment where hazard or equipment are materially different;
 - (ii) a change in site operations that presents a new potential fire hazard;
 - (iii) there is a change in the fire prevention procedures; and
 - (iv) employers / duty holders has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of fire extinguishers or fire prevention procedures.

- (d) Employer / duty holders shall ensure that any person with responsibility for the maintenance of fire equipment, related systems or supplies is competent to do so.
- (e) Employer / duty holders shall provide specialist training to all persons with specific roles and responsibilities within the fire safety management plan, such as fire wardens and emergency controllers.
- (f) Employers / duty holders shall provide training to all employee's on the emergency arrangements for the facility. The training shall include;
 - (i) the risks identified by the fire risk assessment;
 - (ii) the preventative and protective measures;
 - (iii) contents of the emergency evacuation plan;
 - (iv) identity of the emergency management team; and
 - (v) evacuation procedures for the work area.
- (g) This training shall be given at least annually and can be delivered as part of testing the effectiveness of the emergency evacuation plan.
- (h) Employer / duty holders shall maintain a record of staff training. The record shall include, as a minimum:
 - (i) employee name and ID number;
 - (ii) Emirates ID number;
 - (iii) trainer's name;
 - (iv) date of the training; and
 - (v) summary of training provided.
- (i) Employer / duty holders shall maintain records of employee training for the duration of employment, plus one year.

3. Requirements

- (a) Employers / duty holders shall ensure compliance with:
 - (i) UAE Fire and Safety Life Safety Code of Practice 2011 – Civil Defence;
 - (ii) International Building Codes of the Emirate of Abu Dhabi (Department of Municipal Affairs); and
 - (iii) other requirements of relevant Federal and Local authorities.

3.1 Interpretations

- (a) For single occupancy non domestic buildings, the duty holder is defined as the employer / duty holder for the undertakings within the building / facility.

- (b) For multi tenanted non domestic buildings, the duty holder is defined as the entity in control, through contract or ownership, of the access / egress and common areas of the building.
- (c) For construction projects, the duty holder is defined as the principal contractor as outlined within *AD EHS RI – CoP 53.0 – EHS Management during “Construction Work”*.
- (d) A non-domestic building has been defined as any building with a primary use for commercial / industrial activities on behalf of the owner / duty holder. This includes a block of residential apartments as the primary use for the duty holder would be the rental values.
- (e) For multi-tenanted residential buildings, the duty holder shall be responsible for ensuring the requirements of this CoP are implemented throughout the common areas of the building, however no responsibility shall be put upon the duty holder inside the premise of the private dwelling(s).
- (f) For multi-tenanted commercial buildings (eg. other than a residential block) the duty holder is required to ensure that each individual tenant has appointed a competent person to manage the requirements of this CoP within their own premise.
- (g) For construction projects, the duty holder shall ensure that all applicable legislation relating to fire safety during construction, with specific regard to those related to design and the implementation of fixed firefighting equipment during construction of high rise buildings, are implemented during the project.
- (h) A domestic premise(s) is a private dwelling in which a person(s) lives.

3.2 Roles and Responsibilities

3.2.1 Building Owner(s)

- (a) The building owner(s) shall ensure that a duty holder has been appointed for each of the buildings under their ownership.
- (b) Where a duty holder has not been appointed, the building owner shall assume all responsibility for the implementation of this CoP.
- (c) The building owner shall ensure, unless agreed through contractual conditions with a tenant, that the building meets all statutory and Building Code and UAE Fire and Life Safety Code requirements prior to becoming occupied.
- (d) The building owner shall ensure that all parameters required to prevent & fight fire shall be maintained effectively throughout the length of construction and operation of the building/ structure in line with legal obligation.

3.2.2 Employer / Duty Holder

- (a) Employers / duty holders shall ensure that all buildings under his control have completed a fire risk assessment in line with the requirements of this CoP and *AD EHSMS RF – Element 02 – Risk Management*.

- (b) Employer / duty holders shall ensure that a fire safety management plan, including emergency arrangements is prepared for each building under his control.
- (c) Employer / duty holders shall ensure that the findings of the fire risk assessment and subsequent fire safety management plan are communicated to all relevant persons.
- (d) Employer / duty holders shall ensure that procedures are in place to update the fire safety risk assessment and fire safety management plan on a regular basis.
- (e) Employer / duty holders shall ensure that where multiple tenants are present, a competent person is appointed by each tenant to manage the requirements for fire safety within their own premise.
- (f) Employer / duty holders shall ensure that where multiple tenants are present, a fire safety committee is formed to coordinate the requirements of all parties within the building.
- (g) Employer / duty holders shall ensure that all persons within the building, including members of the public or visitors, are aware of the emergency arrangements related to fire.
- (h) The competent person, for multiple tenanted buildings, shall assume the same responsibilities as the duty holder, within their own premise.

3.2.3 Employees

- (a) Employees shall ensure that they cooperate with the employer / duty holder.
- (b) Employees shall ensure they are aware of the contents of the fire safety management plan and adhere to the requirements within.

3.3 Fire Fighting Equipment

- (a) Each workplace / building / facility shall have fire detection and alarm systems and fire fighting equipment appropriate to the risks present in the workplace and as required and approved by the General Directorate of Civil Defence and the International Building Codes of the Emirate of Abu Dhabi (Department of Municipal Affairs). These shall be determined by:
 - (i) dimensions and use(s) of the building(s) and open space constituting the workplace, and the equipment present;
 - (ii) physical, chemical properties and quantities of materials present within the workplace;
 - (iii) activities on-going on the workplace; and
 - (iv) findings of the current risk assessment.
- (b) Any fixed systems for detection, alarm and response shall be inspected and maintained as per the manufacturer's recommendations and as prescribed by UAE Fire and Safety Life Code 2011, in efficient working order and good repair, and appropriate to safeguard the occupants of the workplace.
- (c) Mechanical systems shall be tested at regular intervals to assure they function appropriately and as designed and approved by Civil Defence, as required.

- (d) Substantial changes or modifications to constituent systems, devices or other equipment shall be reviewed following appropriate management of change principles, noting the following:
 - (i) no significant changes shall be implemented until this review is completed and the change is approved; and
 - (ii) appropriate information regarding the change shall be communicated to occupants and other affected persons prior to or coincident with implementation of the change.
- (e) Refer to the UAE Fire and Life Safety Code of Practice 2011 – Civil Defence for all technical requirements.

3.4 Fire Risk Assessment

- (a) Employers / duty holders shall ensure that an appropriate fire risk assessment has been completed by a competent person for the premises.
- (b) Where multiple tenants are present the employer / duty holder shall ensure he is aware of the risks within each area and shall incorporate this into the overall assessment of the building.
- (c) The risk assessment shall be undertaken in line with the principles outlined within *AD EHSMS RF – Element 02 – Risk Management*.
- (d) The risk assessment that is undertaken shall be specific to the fire risks that people are exposed to and comply with all Federal and Local requirements.
- (e) The risk assessment shall be reviewed on a regular basis to ensure it is up to date and in particular if there has been a significant change in the matters to which it relates including when the premises, special, technical and organisational measures, or organisation of the work undergo significant changes, extensions, or conversions, and where changes to an assessment are required as a result of any such review, the responsible person must make them.
- (f) Control measures, in line with the principles of *AD EHSMS RF – Element 02 – Risk Management*, for all hazards identified shall be identified and implemented.
- (g) Employers / duty holders shall ensure that the findings of the risk assessment are communicated to all employees and relevant stakeholders.

3.5 Fire Safety Management Plan

- (a) Employers / duty holders shall ensure that each building under his control has developed a fire safety management plan.
- (b) A fire safety management plan shall detail arrangements to implement, control, monitor and review fire safety standards and to ensure those standards are maintained. The plan shall describe the arrangements for effectively managing fire safety so as to prevent fire occurring and, in the event of fire, to protect people and property.

- (c) The plan shall specify the planning, organisation, control, monitoring and review of the fire safety measures and fire safety provisions in the premises. Examples for each section of the plan are laid out below.
- (d) Fire safety management plan shall include updated organization chart with titles, contact numbers & duties assigned to them in detail.

3.5.1 Planning

- (a) Including, but not limited to:
 - (i) how the responsible person proposes to complete the fire safety risk assessment and determine priorities in eliminating any hazards and reducing risks to persons;
 - (ii) adopting a systematic approach for completing risk assessments to decide on priorities and to set objectives to eliminate or reduce risks;
 - (iii) selecting appropriate risk control measures; and
 - (iv) establishing performance standards and implementing preventative and protective measures.

3.5.2 Organization

- (a) Including, but not limited to:
 - (i) how the organization is structured;
 - (ii) how health and safety information is communicated to all employees;
 - (iii) employee's involvement has been in complying with all aspects of the fire safety risk assessment;
 - (iv) who shall decide on the preventative and protective measures and those involved in implementing them;
 - (v) effective communication systems to employees and other employer / duty holders or other responsible persons;
 - (vi) securing competence by having appropriate information, instruction and training;
 - (vii) fire safety risk assessments;
 - (viii) emergency / evacuation management plan(s);
 - (ix) details of fire drills and practice sessions;
 - (x) housekeeping and fire prevention measures;
 - (xi) arson prevention;
 - (xii) maintenance arrangements;
 - (xiii) details of fire doors/protected areas; and
 - (xiv) details of storage area's for combustible materials.

3.5.3 Control

- (a) Including, but not limited to:
- (i) identify the people (at all levels) who have responsibility for carrying out the fire safety issues throughout the premises. Established control measures shall:
 - 1) clarify health, safety and fire safety responsibilities;
 - 2) ensure those with responsibilities understand their roles and responsibilities;
 - 3) set specific and measurable standards to judge performance; and
 - 4) ensure appropriate supervision.

3.5.4 Monitoring

- (a) Including, but not limited to:
- (i) identify how the employer / duty holder shall measure the success of the fire safety management plan. This shall include regular checks of fire precautions, investigation of causes of incidents and the recording of other relevant information;
 - (ii) have a plan and make routine inspections to ensure measures are in place and are being maintained;
 - (iii) investigate all incidents to ensure lessons are learnt and procedures altered if necessary; and
 - (iv) record of monitoring activities and processes.

3.5.5 Review

- (a) Including, but not limited to:
- (i) Identify a regular review procedure to include any identified deficiencies and a process by which they can be rectified. The review shall:
 - 1) have mechanisms to ensure remedial work is carried out;
 - 2) have a system to ensure remedial work not done is prioritised and completed; and
 - 3) review the management systems to ensure they remain effective.

3.6 Dangerous Substances

- (a) Employers / duty holders shall ensure that all dangerous substances are managed in accordance with the requirements of *AD EHS RI – CoP 1.0 – Hazardous Materials*.

3.7 Prevention of Explosions

- (a) Any potentially explosive materials, whether liquid, solid or gas, present in the workplace shall be managed to avoid their contact with incompatible materials (such as strong oxidising substances), uncontrolled heating, or loss of containment, dispersal and possible ignition. Where the possibility exists for a:

- (i) vapour cloud explosion; and/or
 - (ii) boiling liquid expanding vapour explosion (BLEVE); and/or
 - (iii) reactive chemical (usually oxidizer/fuel mixing); and/or
 - (iv) dust explosion.
- (b) Employers / duty holders shall have prevention and mitigation measures in place to avoid the occurrence of such incidents. These shall include using permit-to-work systems, water deluge, spray and misting systems, underground storage, inventory monitoring, segregation of incompatibles, gas detectors, intrinsically safe electrical systems, and appropriate housekeeping measures.
- (c) The Emergency Response Plan shall also address management scenarios for the above events if the hazardous materials that can give rise to such events are present in appropriate quantities on site to cause any of these events.

3.8 Emergency Escape Routes

- (a) Employer / duty holders shall ensure that every building or structure designed for human occupancy is provided with exits appropriate to permit the prompt escape of occupants in case of fire or other emergency. The number, distribution and dimensions of exits shall be in accordance with the International Building Codes of the Emirate of Abu Dhabi (Department of Municipal Affairs) and the requirements of the General Directorate of Civil Defence and shall be appropriate to the use, equipment and dimensions of the premises, and the maximum number of persons who can be present at any one time.
- (b) All exit routes shall be protected in accordance with the International Building Codes of the Emirate of Abu Dhabi (Department of Municipal Affairs) and shall provide at least 30 minutes protection from smoke and fire.
- (c) All exits are to be so arranged and maintained as to provide free and unobstructed egress from all parts of the building or structure at all times when it is occupied. No lock or fastening device designed to prevent free escape from the inside of any building shall be installed.
- (d) Every exit shall be clearly visible or the route to reach it will be conspicuously indicated in such a manner that every occupant of every building or structure will know the direction of escape from any point.
- (e) All emergency escape routes and emergency exits, that require illumination, shall be provided with emergency lighting of appropriate intensity in case of failure of normal lighting.
- (f) Each path of escape, in its entirety, shall be so arranged or marked that the way to a place of safety is clear.
- (g) In every building or structure equipped for artificial illumination, appropriate and reliable illumination shall be provided for all exit locations. Exit signs shall be installed at the point of exit from the building, in accordance with the International Building Codes of the Emirate of Abu Dhabi (Department of Municipal Affairs).

- (h) No building or structure under construction shall be occupied in whole or in part until all exit facilities required for the occupied part are completed and appropriate for use.
- (i) No existing building shall be occupied during repairs or alterations unless all existing exits and any existing fire protection are continuously maintained, or in lieu thereof, other measures are taken which provide equivalent safety.
- (j) All required exits and ways of travel to and from the exit, shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency.
- (k) Means of egress shall be so designed and maintained as to provide appropriate headroom.
- (l) Where a means of egress is not substantially level, these differences in elevation shall be negotiated by stairs or ramps.
- (m) Exits shall be marked by a readily visible sign. Access to exits shall be marked by readily visible signs in all cases where the exit or way to reach it is not immediately visible to the occupants.
- (n) Every exit sign shall be appropriately illuminated.
- (o) Every exit sign shall have the word "Exit" in plainly legible letters (in Arabic and English) not less than 150 mm high, with the principal strokes of letters not less than 19 mm wide.
- (p) Signage shall be in with the requirements of *AD EHS RI – CoP 17.0 – Safety Signs and Signals*.
- (q) All safety signs shall be in Arabic and English along with other languages as used by the majority of the workforce.

3.9 Maintenance Requirements

- (a) Employers / duty holders shall ensure that any existing equipment, devices or facilities that are provided in the premises for the safety of people, such as fire alarms, fire extinguishers, lighting, signs, fire exits and fire doors, are kept in effective working order and maintain fire separating elements and the prevention of smoke into escape routes.
- (b) Employers / duty holders shall ensure that regular checks, periodic servicing and maintenance are carried out whatever the size of the premises and any defects are put right as reasonably practicable.
- (c) Maintenance activities shall be undertaken as per equipment manufacturer's instructions and where necessary in line with contractual agreements.
- (d) Appendix A has examples of checks and tests that shall be carried out. The examples of testing and maintenance given are not intended to be prescriptive and other testing regimes may be appropriate.
- (e) Employer / duty holders shall ensure that maintenance of fire fighting equipment is undertaken by competent persons only and where required by an approved third party.

- (f) Employers / duty holders shall ensure that all maintenance and related activity is recorded within the fire safety management plan.

4. References

- *AD EHSMS RF – Element 01 – Roles, Responsibilities and Self-Regulation*
- *AD EHSMS RF – Element 02 – Risk Management*
- *AD EHSMS RI – CoP 1.0 – Hazardous Materials*
- *AD EHSMS RF – CoP 17.0 – Safety Signs and Signals*
- *AD EHSMS RF – CoP 53.0 – EHS Management during “Construction Work”*
- *UAE Fire and Life Safety Code 2011 – Civil Defence*
- *International Building Codes – Department of Municipal Affairs Abu Dhabi*
- *County Durham and Darlington Fire and Rescue Service - www.ddfra.co.uk*
- *Regulatory Reform (Fire Safety) Order 2005 – HSE Books ISBN 1842 1930 99*

Appendix A – Example Fire Prevention Checks and Tests

Daily Checks:

- Remove bolts, padlocks and security devices from fire exits, ensure that doors on escape routes swing freely and close fully and check escape routes to ensure they are clear from obstructions and combustible materials. Check the fire alarm panel to ensure the system is active and fully operational. Where practicable, visually check that emergency lighting units are in good repair and working. Check that all safety signs and notices are legible.

Weekly Tests and Checks:

- Test fire-detection and warning systems and manually-operated warning devices weekly following the manufacturer's or installer's instructions. Check the batteries of safety torches and that fire extinguishers and hose reels are correctly located and in apparent working order. Test fire pumps and standby diesel engines for 30 minutes each week.

Monthly Tests and Checks:

- Test all emergency lighting systems and safety torches to make sure they have enough charge and illumination according to the manufacturer's or supplier's instructions. This shall be at an appropriate time when, following the test, they will not be immediately required.
- Check that fire doors are in good working order and closing correctly and that the frames and seals are intact.

Six-Monthly Tests and Checks:

- A competent person shall test and maintain the fire-detection and warning system.

Annual Tests and Checks:

- The emergency lighting and all fire fighting equipment, fire alarms and other installed systems shall be tested and maintained by a competent person.
- All structural fire protection and elements of fire compartmentation should be inspected and any remedial action carried out.

© Abu Dhabi EHS Center 2012

This document is and shall remain the property of the AD EHS Center. The document may only be used for the purposes for which it was intended. Unauthorised use or reproduction of this document is prohibited.