



Abu Dhabi EHSMS Regulatory Framework (AD EHSMS RF)

EHS Regulatory Instrument

Code of Practice

EHS RI - CoP 37.0 – Ladders

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.



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Preface

This Abu Dhabi EHS Regulatory Instrument was developed by the Building and Construction Sector Regulatory Authority 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;
 - 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 employers within the Emirate of Abu Dhabi. This CoP is designed to incorporate requirements set by Abu Dhabi EHS Center and Sector Regulatory Authorities in the Emirate of Abu Dhabi.
- (b) This CoP established the requirements and standards so that the risks associated with the use of ladders are assessed, that control measures are implemented in accordance with the hierarchy of controls and ensure control measures are implemented to prevent injury, illness and disease to persons who might be exposed to risks arising from those activities.
- (c) These requirements of the CoP shall be implemented in accordance with *AD EHS RI – CoP 23.0 – Working at Heights*.
- (d) The use of the term 'ladder' refers to any metal, wooden, reinforced plastic or composite material ladder that is used for access. It includes similar material stepladders but does not include fixed vertical ladders. It shall be noted however that this does not include self-made ladders and all ladders shall hold a rating as defined in section 3.3.

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 shall ensure personnel required to implement the requirements of this CoP are trained in the use of ladders and understand the risks associated with using the ladders and the control measures are implemented by the employer.
- (c) Training for employees shall be competency-based and include:
 - (i) systems of work needed for the safe use of ladders;
 - (ii) types and selection of correct ladders;
 - (iii) use of ladders;
 - (iv) fall protection equipment; and
 - (v) storage, care, maintenance and inspection of ladders.
- (d) Employers shall conduct additional retraining whenever a periodic inspection reveals, or there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of ladders or procedures.
- (e) Employers shall conduct additional retraining whenever a ladder procedure fails.
- (f) Employers shall maintain a record of the required training that contains the following information:
 - (i) name and ID number;
 - (ii) Emirates ID number of the employee;

- (iii) subject(s) of training;
- (iv) dates(s) of training; and
- (v) person(s) providing the training.

3. Requirements

3.1 Roles and Responsibilities

3.1.1 Employers

- (a) Employers shall undertake their roles and responsibilities in accordance with the general requirements of *AD EHSMS RF – Element 01 – Roles, Responsibilities and Self-Regulation* Section 3.2.5.
- (b) Employers shall undertake their specific roles and responsibilities in accordance with the following:
 - (i) safer access systems – eg. scaffolding and elevating work platforms – are used as a first resort and use ladders if these other systems are not reasonably practicable;
 - (ii) ladders shall be appropriate for the task and in good working condition;
 - (iii) all work with ladders is appropriately planned, organized and appropriately supervised;
 - (iv) those involved in use of ladders are trained and competent; and
 - (v) ladders are inspected on a regular basis by a competent person.

3.1.2 Employees

- (a) Employees shall undertake their roles and responsibilities in accordance with the general requirements of *AD EHSMS RF – Element 01 – Roles, Responsibilities and Self-Regulation* Section 3.2.7.
- (b) Employees shall undertake their specific roles and responsibilities in accordance with the following:
 - (i) employees shall report any activity or defect relating to ladders which they believe is reasonably foreseeable to endanger their safety or the safety of another person; and
 - (ii) employees shall use safety devices provided to use with ladders by the Employer in accordance with training or instruction received in the use of the work equipment or other device.

3.2 Planning and Assessment

- (a) Employers shall evaluate each site or operation to determine if ladder hazards are present and the equipment shall be assessed using risk management practices as required by *AD EHSMS RF – Element 02 – Risk Management* and *AD EHS RI – CoP 23.0 – Working at Heights*.

(b) Employers shall ensure:

- (i) assessment of the various risks and establishment of systems of work which are safe to both staff, contractors and the public;
- (ii) that effective procedures and control measures are in place which are implemented in order to manage ladder activities;
- (iii) that for the Building and Construction Sector the safe management of ladder requirements are included in the Pre-Tender Environment, Health and Safety Plan in accordance with *AD EHS RI – CoP 53.0 – EHS Management during “Construction Work”*; and
- (iv) that associated safe systems of work, and site rules are included in the *Environment, Health and Safety Construction Management Plan (EHS-CMP)* in the case of the Building and Construction Sector in accordance with *AD EHS RI – CoP 53.0 – EHS Management during “Construction Work”*.

3.3 Selecting Portable Ladders

(a) Employers must select ladders that are:

- (i) industrial rated, do not use domestic ladders;
- (ii) able to extend at least 1 meter higher than the highest level that needs to be accessed;
- (iii) capable of supporting the greatest load to be imposed; and
- (iv) no longer than the lengths specified below.

Maximum Lengths	
<p>Metal ladders and reinforced plastic ladders:</p> <ul style="list-style-type: none"> • 6.1 meters for an industrial stepladder; • 9 meters for a single industrial ladder; • 15 meters for an industrial extension ladder. 	<p>Wooden Ladders:</p> <ul style="list-style-type: none"> • 5.5 meters platform stepladder; • 5.5 meters industrial pole ladder.

(b) Ladders shall be rated as per the table above and self-made ladders or access equipment is prohibited.

3.4 Stepladders

- (a) Employers shall ensure that stepladders are used in the fully open position.
- (b) Employees can carry out work that requires the simultaneous release of both hands from the stepladder only under the following circumstances:
 - (i) the working height is limited to accessing the ceiling or soffit of the floor above which the stepladder is positioned, or to 1.8 meters as a maximum height;
 - (ii) the person and the stepladder are to remain stable throughout the period of work;

- (iii) the person is to have the use of both hands to grip the stepladder when ascending and descending the ladder;
- (iv) except for stepladders incorporating an appropriately guarded work platform, the person does not work above the third step from the top of the stepladder;
- (v) the nature of the work allows the person to lean forward towards the stepladder;
- (vi) where the work involves hand tools:
 - 1) the tools are used as intended in their normal operating position;
 - 2) tool use does not negate guarding or other safety features on the tools;
 - 3) all tools are supported by the person undertaking the task (eg. in a tool belt or tool bag) and are not supported from the stepladder, unless designed for the purpose;
 - 4) the tools, and the manner in which they are used, do not cause the center of gravity of the person operating them to be shifted from the stable position of leaning towards the stepladder; and
 - 5) the tools are relatively lightweight.
- (vii) the nature of the work and the position of the stepladder, does not require the person to overstretch;
- (viii) the work does not cause fatigue – it is of short-term duration and conducted in an ergonomic manner; and
- (ix) where the above cannot be complied with Employers shall ensure stepladders are not used and shall adapt a more appropriate means of access for the work.

3.5 Step Platforms

- (a) Employers shall consider step platforms as an alternative to stepladders where the task involves extended periods of working at height or involves high risk working such as welding or other forms of hot work.
- (b) Employers shall ensure step platforms are used on a firm and level surface and are well maintained in accordance with the manufacturer's instructions.
- (c) Employers shall ensure that all employees involved in the use of step platforms are given specific instructions on their erection, movement, use and inspection.

3.6 Other Hazards / Controls

- (a) Employers shall ensure that:
 - (i) where ladders or stepladders are being used outside they are not used in the event of high winds or inclement weather;
 - (ii) before ladders are used they are inspected and that procedures and control measures are implemented to remove defective or damaged ladders from service;
 - (iii) ladders are not used near the edge of an open floor, penetration, or on scaffolding to gain extra height;

- (iv) ladders are not set up in a passageway, doorway, driveway or other place where a person, vehicle or crane lifted load might strike it so as to cause instability or its collapse;
- (v) where ladders are set up in a public place appropriate control measures are implemented to protect the public and that ladders are removed when not in use even for short periods of time;
- (vi) where a ladder is left unattended signs are provided warning against unauthorized use of the ladder;
- (vii) tools and materials are not carried by hand when climbing ladders, tools and materials which cannot safely be secured on the employees belt are to be independently transferred or hoisted to the work location;
- (viii) work from ladders is not carried out directly over people;
- (ix) Overhead power lines or other overhead hazards shall be identified;
- (x) ladders are used by one person at a time;
- (xi) ladders are not modified or used for any other purposes than those designed for;
- (xii) employees are issued with and wear slip resistant appropriate footwear when using ladders; and
- (xiii) the combined weight of person plus tools when using a ladder does not exceed 120 kg unless the ladder is designed for such a load as recorded in the ladder manufacturer's instructions.

3.7 Setting up Ladders

- (a) Employers shall make arrangements so that heavy ladders (weighing over 20 kg) are handled by at least 2 employees.
- (b) Employers shall ensure ladders are set up so that:
 - (i) their slope is between 70 degrees and 80 degrees (1 meter horizontally for every 4 meters vertically is ideal);
 - (ii) they extend at least 1 meter past the highest point that needs to be accessed;
 - (iii) their base and top are firmly secured by fixing or tying, or by another employee holding the base or top;
 - (iv) ties at the base or top of a ladder are attached to the stiles of the ladder, not the rungs;
 - (v) if necessary, road and pedestrian traffic controls are implemented, doors are locked etc; and
 - (vi) rungs are clean before the ladder is used.
- (c) Employers shall ensure there is appropriate, stable, non-slippery and level support for the base of a ladder. If the ground is soft or uneven, wide planks shall be considered as a base.
- (d) Employers shall implement control measures so that the base of a ladder is not in a pedestrian or road traffic area, or next to a door or gate, unless there are appropriate control measures are implemented.

- (e) Employers shall implement control measures so that the top of single and extension ladders are supported by a structure that is strong enough to bear the loads.
- (f) When adjusting the height of an extension ladder employers shall implement control measures so that people are:
 - (i) not positioned on the ladder;
 - (ii) not reaching through the ladder; and
 - (iii) careful to avoid injury from sliding guides and other components.
- (g) Before climbing an extension ladder after the height has been adjusted employers shall implement control measures so that the user must look to make sure that the locking mechanism is appropriately engaged.

3.8 Securing Ladders

3.8.1 At the Base

- (a) Employers shall ensure the following for all ladders 3 meters in length or longer where the ladder is secured at the base:
 - (i) when ladders are erected against a structure, ladders are secured at the base before any person ascends them;
 - (ii) the base rope is to be secured to the structure and the tail of the base rope is tied off to the other stile;
 - (iii) an appropriate warning device, such as a flag, is to be attached to the rope between the ladder and the structure; and
 - (iv) if a ladder cannot be secured with the base rope, a person shall steady the base of the ladder to prevent it from slipping.

3.8.2 At the Top

- (a) Employers shall ensure the following for all ladders 3 meters in length or longer where the ladder is secured at the top:
 - (i) a ladder is to be secured at its top with a rope to the stile and the tail of the rope is to be tied off to the other stile. This is to be done before work from the ladder commences or before people move from the ladder to the structure. While the ladder is being secured a person shall steady the base of the ladder to prevent it from slipping;
 - (ii) when a ladder is secured at its top it is no longer necessary for a person to steady the ladder base;
 - (iii) if a ladder cannot be secured at its top, a person shall continue to steady the base of the ladder to prevent it from slipping. In these circumstances, the base is to be also secured with a rope if reasonably practicable; and
 - (iv) a person steadying a ladder shall firmly grasp the stiles with both hands to prevent any movement or overturn of the ladder.

3.9 Using Ladders

- (a) Employers shall ensure that:

- (i) the decision to use ladders is not governed by time or cost factors but based on the best available means of access for the work in hand;
- (ii) a ladder is used for vertical access only, a ladder shall not be used in a horizontal position as a platform, runway, or scaffold;
- (iii) portable ladders shall be placed so as to prevent slipping, or shall be lashed, or held in position;
- (iv) ladders are not placed on boxes, barrels, or other unstable bases to obtain additional height;
- (v) a ladder is not used if employees need to place their feet higher than the third highest rung;
- (vi) a ladder is not used to gain height above the protected edge of a scaffold or an elevating work platform;
- (vii) only one person at a time uses a ladder. If a ladder's base or top is being held by an employee, that employee shall not do other work while there is a person on the ladder;
- (viii) no person shall be on a ladder when it is being moved to a new work location;
- (ix) when climbing or descending a ladder, employees:
 - 1) shall face the normal climbing side of the ladder;
 - 2) shall have at least three limbs in contact with the ladder at all times (eg. both hands and 1 foot, or 1 hand and both feet);
 - 3) shall grip the stiles or rungs; and
 - 4) shall not carry objects/materials in their hands.
- (x) tools are to be carried in a tool belt, holster or pouch, not in the hands;
- (xi) while on a ladder, employees:
 - 1) shall not to "walk" the ladder ("walk" means cause the ladder to move by moving one's body at the top of the ladder, thus lifting the ends of the stiles alternately);
 - 2) shall not to climb so that their feet are higher than the third highest rung; and
 - 3) shall not to reach to either side or away from the ladder, except to hold a stable supporting structure.

3.10 Working near Electrical Equipment

- (a) Employers shall ensure that metal ladders or wire-reinforced ladders are not used for work:
 - (i) on or near low voltage (110 volt. or greater) electrical conductors;
 - (ii) within 6 meters of live 1500 volt. overhead power supplies or high voltage equipment;
 - (iii) if there are live electrical conductors nearby, where the conductor could move due to wind load, or the ladder could move due to swaying so that safe distances are not maintained; and
 - (iv) near electrical equipment that needs an electrical work permit.

3.11 Using Fall Arrest Equipment

- (a) Employers shall consider the following as additional safety precautions when work is being carried out from ladders:
- (i) if an employee accesses a height of more than 2 meters, an appropriate harness and safety line is provided; and
 - (ii) when working from a ladder accessing a pole (for example telecommunications) a pole strap is provided and used.
- (b) Fall Arrest Systems shall be used in accordance with *AD EHS RI – CoP 23.0 – Working at Heights*.

3.12 Care and Maintenance

- (a) Employers shall ensure the correct care and maintenance of ladders by adherence to the following:
- (i) avoid dropping ladders or damaging them in any other way. Damage to the stiles can weaken the ladder and/or cause a hand injury hazard from splinters;
 - (ii) shall ensure ladders are stored in an appropriate place and ensure that access to ladders is restricted to only authorized persons;
 - (iii) normally water is sufficient to remove mud and dirt from a ladder. If the ladder becomes contaminated with a substance that requires a more powerful cleaner care shall be taken to make sure that the neither the substance to be removed nor the solvent damages the ladder. In particular, consideration shall be given to possible damage to the lacquer coating on timber ladders as this is essential to exclude water, to maintain the insulating properties of the ladder and to prevent decay of the timber;
 - (iv) wooden ladders shall not to be painted. If a preservative is used it is to be transparent during the life of the ladder to enable visual inspections to detect deterioration;
 - (v) ladders shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play;
 - (vi) all wood parts shall be free from sharp edges and splinters; sound and free from visual failure, decay, or other irregularity. Low density wood shall not be used;
 - (vii) ladders shall not be tied or fastened together to provide longer sections. Ladders shall be equipped with the hardware fittings necessary for support and extension;
 - (viii) frayed or badly worn rope shall be replaced;
 - (ix) safety feet and other equipment shall be kept in good condition to ensure appropriate performance;
 - (x) ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment shall not be used. Improvised repairs shall not be made; and
 - (xi) rungs shall be kept free of grease and oil.

3.13 Inspection and Testing

- (a) Employers shall develop an appropriate inspection program to ensure ladders shall be inspected frequently and those with defects shall be withdrawn from service for repair or disposal and tagged or marked as "Dangerous, Do Not Use".
- (b) As a minimum, employers shall ensure a daily user inspection is carried out for all ladders and a weekly formal inspection shall be undertaken and documented.
- (c) Employers shall consider the use of inspection tags fixed to each ladder. The inspection tag can be used to record the following information:
 - (i) identification mark of the ladder;
 - (ii) date of inspection;
 - (iii) result of inspection; and
 - (iv) name of the person(s) carrying out the inspection.

3.14 Acceptance Inspection

- (a) Employers shall inspect ladders on initial receipt to make sure they are fit for purpose.
- (b) A sticker showing the date of receipt and the inspection carried out is to be affixed to the ladder. Employers shall make sure that the inspection and marking is carried out correctly.

3.14.1 Before Each Use

- (a) Employers shall ensure that the person using the ladder inspects it before each use to make sure that it functions correctly and has not deteriorated during storage or transportation. The inspection is to include checks for:
 - (i) cracks or other damage to the rungs or treads;
 - (ii) contamination of the rungs or treads with grease, oil or chemicals, cracks or damage to the stiles;
 - (iii) unauthorized repair or modification to any part of the ladder;
 - (iv) corrosion of any part of the ladder due to chemicals;
 - (v) cuts or other damage resulting in metal splinters;
 - (vi) loose rivets, joints, nuts and bolts;
 - (vii) damage to hinges;
 - (viii) damaged or missing feet; and
 - (ix) the condition of any ropes to be used with the ladder.

3.14.2 After Incidents

- (a) Employers shall ensure that if a ladder is involved in any form of incident, has been dropped or suffered any impact, it is to be inspected, and where necessary tested, to make sure it remains fit for purpose. Any damage is to be repaired before the ladder is used. If repair is not reasonable practicable, the ladder is to be removed from service, marked accordingly (using a caution tag) and disposed of.
- (b) Employers shall ensure that only serviceable ladders are available for use.

4. Record Keeping

- (a) Employers shall maintain records in accordance with *AD EHSMS RF – Element 09 – Compliance and Management Review* Section 3.5.
- (b) Employers shall make and keep records of any tests, maintenance, inspections carried out on ladders.

5. References

- *AD EHSMS RF – Element 01 – Roles, Responsibilities and Self-Regulation*
- *AD EHSMS RF – Element 02 – Risk Management*
- *AD EHSMS RF – Element 09 – Compliance and Management Review*
- *AD EHS RI – CoP 23.0 – Working at Heights*
- *AD EHS RI – CoP 53.0 – EHS Management During “Construction Work*

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