



Abu Dhabi EHSMS Regulatory Framework (AD EHSMS RF)

EHS Regulatory Instrument

Code of Practice

**EHS RI - CoP 24.0 – Lock-out / Tag-out
(Isolation)**

Version 2.0

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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.....	7
3.	Requirements	8
3.1	Roles and Responsibilities	8
3.2	Planning and Assessment.....	9
3.3	Lock-out/Tag-out Requirements.....	9
4.	Record Keeping.....	10
5.	References.....	11

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 employers 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, employers are required to follow the more stringent requirement.
- (b) This CoP establishes the requirements and standards so that the risks associated with the use of lock out / tag out (isolation) are assessed, that control measures are implemented in accordance with the hierarchy of controls and those measures are taken to prevent injury, illness and disease to persons who might be exposed to risks arising from those activities.
- (c) Lock-out / Tag-out is defined as the “Introduction of a device to isolate energy sources & placement of tag on isolated device to show that equipment is out of service for repair or maintenance work”.
- (d) This CoP applies to the servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machines or equipment, or release of stored energy could cause injury to employees. This CoP establishes minimum performance requirements for the control of such hazardous energy.
- (e) Normal production operations are not covered by this CoP. Servicing and/or maintenance which takes place during normal production operations is covered by this CoP only if:
 - (i) an employee is required to remove or bypass a guard or other safety device; or
 - (ii) an employee is required to place any part of his body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation).
- (f) This standard does not apply to the following:
 - (i) work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or startup of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance; and
 - (ii) hot tap operations involving transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines, provided that the employer demonstrates that:
 - (1) continuity of service is essential;
 - (2) shutdown of the system is impractical; and
 - (3) documented procedures are followed, and special equipment is used which will provide proven effective protection for employees.

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 provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees.
- (c) The training shall include the following:
- (i) each employee who places and removes lock-out and tag-out devices shall receive training in:
 - (1) recognition of applicable hazardous energy sources;
 - (2) types and magnitude of the energy available in the workplace;
 - (3) types of isolation devices and their use; and
 - (4) procedures, methods and means required for energy isolation and control in the workplace.
 - (ii) each employee who shall work on machines or equipment which are subject to lock-out/tag-out requirements shall be instructed in the purpose and use of the energy control procedure; and
 - (iii) all other employees whose work operations are or may be in an area where energy control measures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.
- (d) When tag-out systems are used, employees shall also be trained in the following limitations of tags:
- (i) tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock;
 - (ii) when a tag is attached to an energy isolating means, it is not to be removed without authorization of the employee responsible for it, and it is never to be bypassed, ignored, or otherwise defeated; and
 - (iii) tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.
- (e) Refresher training shall be provided for employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control measures:
- (i) additional refresher training shall also be conducted whenever a periodic inspection reveals, or whenever the employer has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control measures; and

- (ii) the refresher training shall reestablish employee proficiency and introduce new or revised control measures and procedures, as necessary.
- (f) The employer shall maintain a record of employee training. The record shall contain:
 - (i) employee name and ID number;
 - (ii) Emirates ID number;
 - (iii) classification of employee (authorized, affected, other);
 - (iv) dates of training; and
 - (v) name of person providing the training.
- (g) The training shall be conducted in the common, understandable language of the employees & employer has to make sure that all necessary elements of the training being delivered & understood by all involved in training program.

3. Requirements

3.1 Roles and Responsibilities

3.1.1 Employer

- (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 comply with *Article 13 of Ministerial Order No. 32 of 1982*.
- (c) Employers shall undertake their specific roles and responsibilities in accordance with the following:
 - (i) all activities where unexpected energization or start up or machinery and/or equipment is identified as a hazard shall appropriately properly planned, organized and supervised;
 - (ii) those involved such activities shall be appropriately trained and competent;
 - (iii) appropriate safe systems of work shall be developed; and
 - (iv) an energy control program, as outlined in this CoP, shall be developed.

3.1.2 Employee

- (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*.

3.2 Planning and Assessment

- (a) Employers shall evaluate each site or operation to determine if hazards are present and the workplace shall be assessed using risk management practices as required by *AD EHSMS RF – Element 02 – Risk Management*.
- (b) Where hazards are present, the employer shall develop an energy control program in line with the requirements of this CoP.
- (c) Employers shall ensure:
 - (i) assessment of the various risks and establishment of systems of work which are safe to other employees, contractors and the public;
 - (ii) for the Building and Construction Sector the management of lock out / tag out requirements are included in the Pre-Tender Environment, Health and Safety Plan in accordance with *EHS RI – CoP 53.0 – EHS Management during “Construction Work”*; and
 - (iii) 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 Lock-out/Tag-out Requirements

- (a) Employers shall establish a program consisting of energy control measures, procedures, training and periodic inspections to ensure that before an employee performs any inspection, repair maintenance or cleaning on plant / machinery / equipment where unexpected energizing, startup or release of stored energy could occur. The plant / machinery / equipment shall be isolated for the energy source and rendered inoperative.
- (b) If an energy isolating device is capable of being locked out, the employer's energy control measures shall utilize lockout.
- (c) If an energy isolating device is not capable of being locked out, the employer's energy control measures shall utilize a tag-out system.
- (d) When a tag-out system / device is used on an energy isolating device which is capable of being locked out, the tag-out device shall be attached at the same location that the lock-out device would have been attached, and the employer shall demonstrate that the tag-out program will provide a level of safety equivalent to that obtained by using a lockout program.
- (e) Whenever replacement or major repair, renovation or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machine or equipment shall be designed to accept a lockout device.
- (f) Procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy, and the means to enforce compliance including, but not limited to, the following:

- (i) a specific statement of the intended use of the procedure;
 - (ii) specific procedural steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy;
 - (iii) specific procedural steps for the placement, removal and transfer of lock-out devices or tag-out devices and the responsibility for them;
 - (iv) specific requirements for testing a machine or equipment to determine and verify the effectiveness of lock-out devices, tag-out devices, and other energy control measures;
 - (v) procedures to be followed where multiple lock out / tag out devices are to be utilized due to multiple tasks being undertaken; and
 - (vi) specific requirements for removing lock-out or tag-out devices and restoring machines and equipment to normal operation.
- (g) Appropriate locks, tags, chains, or other hardware shall be provided by the employer for isolating, securing or blocking of machines or equipment from energy sources.
- (h) Lock-out devices and tag-out devices shall be singularly identified; shall be the only devices(s) used for controlling energy; shall not be used for other purposes; and shall meet the following requirements:
- (i) lock-out and tag-out devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected;
 - (ii) tags shall be legible, printed in Arabic and English, and any other language(s) necessary for the understanding and comprehension by all employees;
 - (iii) tags shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible;
 - (iv) tags shall not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored;
 - (v) tags shall be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use; and
 - (vi) lock-out, tag-out devices shall be robust enough to sustain any adverse, forceful penetration.
- (i) The employer shall conduct a periodic inspection of the energy control measures / procedures on an annual basis to ensure that the procedure and the requirements of this CoP are being followed. The periodic inspection shall be performed by a competent employee other than the ones(s) utilizing the energy control procedure(s) being inspected.

4. Record Keeping

- (a) The employer shall maintain a record that the periodic inspections have been performed. The record shall contain:
 - (i) training records;
 - (ii) list of authorized persons;

- (iii) the machine or equipment on which the energy control procedure was being utilized;
- (iv) the date of the inspection;
- (v) the employees included in the inspection;
- (vi) the person performing the inspection; and
- (vii) manufacturer's catalogue with all necessary information.

5. References

- *AD EHSMS RF – Element 01 – Roles, Responsibilities and Self-Regulation*
- *AD EHSMS RF – Element 02 – Risk Management*
- *AD EHS RI – CoP 15.0 – Electrical Safety*
- *AD EHS RI – CoP 21.0 – Permit to Work*
- *AD EHS RI – CoP 53.0 – EHS Management during “Construction Work”*
- *UAE Ministerial Order No. 32 of 1982*

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