



Abu Dhabi EHSMS Regulatory Framework (AD EHSMS RF)

EHS Regulatory Instrument

Code of Practice

EHS RI - CoP 11.0 – Safety in the Heat

Version 2.1

April 2013

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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ABU DHABI TOURISM AUTHORITY

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Preface

This Abu Dhabi EHS Regulatory Instrument was developed by the Health Authority - Abu Dhabi 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 Municipality;
 - Al Ain 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 and Culture 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 that have employees working in high temperature environments. High temperature environments includes both weather (working outside in summer months) and site operations (furnaces, ovens, and other high temperature operations).
- (b) This document is designed to incorporate requirements set by UAE and Abu Dhabi Competent Authorities. If requirements of this document conflict with requirements set by another regulatory authority, employers are required to follow the more stringent requirement.

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) Appropriate training shall be given to all employees working in high temperature environments in a language they can understand prior to starting work.
- (c) General working in heat awareness shall be provided to all employees, in a language they understand, throughout the summer months, as defined by Ministry of Labour Decree's. Awareness activities shall include:
 - (i) training on the hazards of working in heat;
 - (ii) information on the importance of maintaining good hydration and eating a well-balanced diet;
 - (iii) recognizing the signs of heat illness;
 - (iv) appropriate information and awareness given to employees, in a language they understand, regarding heat as a hazard and precautions to be taken to avoid heat related injuries and illnesses (eg. posters, information leaflets, training videos and presentations);
 - (v) information and awareness campaigns to raise and maintain awareness amongst the workforce exposed to extreme heat conditions; and
 - (vi) displaying of posters illustrating monitoring of hydration status by urine color in toilets and rest rooms (Example of a urine chart can be found in *AD EHSMS RF – Technical Guideline – Safety in the Heat*).
- (d) Within 10 days of starting employment and prior to the start of the defined summer months, employees shall be trained on:
 - (i) how to recognize the signs and symptoms of heat related illness in themselves and others and how the body overheats;

- (ii) the importance of drinking water (at least 2 litres every 2-3 hours) and the addition of a little extra salt to meals;
 - (iii) how to self-monitor urine color to determine hydration levels;
 - (iv) the importance of acclimatization, work pacing, rest breaks and effects of clothing on heat stress;
 - (v) the procedures to call for first aiders and/or medical assistance if experiencing the symptoms of a heat related injury/illness; and
 - (vi) the requirements of the employer's heat stress program.
- (e) Employers shall ensure managers and supervisors are appropriately trained on:
- (i) how to recognize the signs and symptoms of heat related illness and how the body overheats;
 - (ii) the precautions to be taken for the prevention of heat related illness amongst the workforce;
 - (iii) the importance of self-pacing and providing appropriate rest breaks for recovery;
 - (iv) the procedures to call for first aiders and/or medical assistance; and
 - (v) the requirements of the employer's heat stress program.
- (f) Employers shall ensure First Aiders are suitably trained on:
- (i) how the body overheats and how to recognize the signs and symptoms of heat related illness and its different types;
 - (ii) the precautions to be taken for the prevention of heat related illness;
 - (iii) the first aid treatment of the different types of heat related illness;
 - (iv) the procedures to call for medical assistance; and
 - (v) the requirements of the employer's heat stress program.

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 ensure a risk assessment is performed in accordance with *AD EHSMS RF – Element 02 – Risk Management* to determine where heat stress hazards exist and who is at risk from developing a heat related illness.
- (c) Employers shall ensure a medical surveillance program in accordance with *AD EHS RI – CoP 5.0 – Medical Surveillance* is implemented to evaluate employees working in high temperature environments to ensure they are able to perform their assigned duties.

- (d) Employers shall ensure engineering control measures are implemented to eliminate the risk as far as reasonably practicable.
- (e) Employers shall ensure an effective heat stress program in accordance with this CoP is implemented for worksites where employees work in environments where high temperatures and humidity may pose a health risk. Any worksite that has, or it is reasonably foreseeable to have, a temperature at or above 35 degrees Celsius at any time during a work shift, shall implement an effective heat stress program, unless they can document through risk assessments and Thermal Work Limit (TWL) that there is no risk to employees.
- (f) Employer shall implement a process for assessing the environmental conditions and comparing it to the TWL heat stress index and implementation of the requirements of the relevant work zone control measures (refer to *AD EHSMS RF – Technical Guideline – Safety in the Heat* for guidance on this requirement).
- (g) Employers shall ensure worksites adhere to the UAE Ministry of Labour requirements for a midday break during the summer months for employees working outside.
- (h) Employer shall ensure employer supplied meals are evaluated so that they offer a healthy balanced diet with appropriate nutrition and appropriate electrolytes and calories to sustain work in high temperature environments.
- (i) Employers shall ensure education is provided to employees on the hazards of consuming of alcohol, tea, coffee and caffeinated drinks which can make them more susceptible to heat related injuries and illnesses.
- (j) Employers shall ensure appropriate availability of appropriate fluids (eg. potable water) for the employees to maintain hydration levels, in accordance with *AD EHS RI – CoP 8.0 – General Workplace Amenities* and *AD EHS RI – CoP 9.0 – Workplace Wellness*.
- (k) Employers shall ensure an allowance is made for self-pacing of work and appropriate rest breaks are provided to exposed employees.
- (l) Employers shall ensure that in the event an employee is suffering from a suspected heat related illness they have immediate access to medical attention, in accordance with *AD EHS RI – CoP 4.0 – First Aid and Medical Treatment* and incidents are reported as per *AD EHSMS RF – Element 07 – Monitoring, Investigation and Reporting*.

3.1.2 Employees

- (a) Employees shall ensure they participate in training required by the employer or supervisors in regards to heat stress and work in hot environments.
- (b) Employees shall ensure that they know the requirement of their employer's heat stress program and obey the requirements of the program.
- (c) Employees shall ensure they report any failures of the heat stress program to their supervisor immediately.

- (d) Employees shall ensure they report any symptoms of heat illness suffered by themselves or fellow employees to their supervisor immediately as per *AD EHSMS RF – Element 07 – Monitoring, Investigation and Reporting*.

3.2 Heat Stress Program Requirements

- (a) Employers shall perform a risk assessment in accordance with *AD EHSMS RF – Element 02 – Risk Management*, to identify high temperature working environments and implement effective control measures to reduce exposure and protect employees from heat exposure as far as reasonably practicable.
- (b) Employers that have employees working in high temperature environments shall develop a worksite specific heat stress program that shall consist of, but not be limited to the following elements:
- (i) acclimatization program for new employees, employees that have been on vacation, and employees that are moving from a worksite that has climate control to a worksite that has high temperatures with an allowance of 5-7 days for acclimatization before starting hard work in a hot environment in summer;
 - (ii) process for assessing environmental conditions utilizing the Thermal Work Limit (TWL) to determine work/rest breaks and water consumption requirements for employees (refer to *AD EHSMS RF – Technical Guideline – Safety in the Heat*);
 - (iii) system to communicate current environmental conditions to employees so they can take the appropriate control measures to prevent heat stress injuries and illnesses;
 - (iv) communication system to inform/remind employees, employees returning from vacation and visitors to the site of the hazards of heat stress, signs and symptoms of heat stress, and steps to be taken to prevent heat stress;
 - (v) requirements for provision of appropriate amounts of potable drinking water close to the worksite and appropriate electrolyte replacement drinks, as per guidance from a qualified physician, for employees working in high temperature environments and implement programmed drinking where appropriate every hour to encourage appropriate fluid intake, in accordance with *AD EHS RI – CoP 8.0 – General Workplace Amenities* and *AD EHS RI – CoP 9.0 – Workplace Wellness*;
 - (vi) provision of appropriate clothing (eg. lightweight, cotton, light-colored, loose-fitting - unless using machinery) and personal protective equipment including a large personal water container (of at least one liters in size). Shared drinking cups, water bottles, or other such devices are not allowed;
 - (vii) provision for design and placement of shade and cooling shelters for employees working outside during summer months and appropriate cooled accommodation / shelter for the summer months during the midday break periods set by the Ministry of Labour;
 - (viii) process for scheduling physical activities in the summer months during the coolest part of the day to the extent reasonably practicable;
 - (ix) provision of pre-employment screening and medical clearance in accordance with *AD EHS RI – CoP 5.0 – Medical Surveillance* for any employee working in high temperature environments to identify any chronic medical condition (eg. high blood

- pressure, obesity) or use of prescription drugs which may affect their resistance to heat stress (consult a doctor);
- (x) pre-job training (inductions) prior to working in high temperature environments and a permit to work system in extreme high temperature and humidity environments that includes the TWL High Risk Zone (refer to *AD EHSMS RF – Technical Guideline – Safety in the Heat*);
 - (xi) audit/Inspection program to ensure worksites are following the heat stress program requirements, as per *AD EHSMS RF – Element 08 – Audit and Inspection*;
 - (xii) training for all employees as required in Section 2 of this document; and
 - (xiii) investigation and reporting of heat injuries and illness as required by *AD EHSMS RF – Element 07 – Monitoring, Investigation and Reporting*.
- (c) Whenever reasonably practicable, engineering control measures shall be used to eliminate/reduce the heat exposure. Control measures may include:
- (i) adding Insulation to building ceilings to minimize solar heat transfer;
 - (ii) providing shaded work areas;
 - (iii) providing cooled and air-conditioned rest areas with water or electrolyte drinks, as per Health Authority - Abu Dhabi / qualified physician's instructions;
 - (iv) using exhaust ventilation such as extraction hoods above heat-generating processes like a furnace or oven to remove heat;
 - (v) using forced air-ventilation such as fans to increase airflow across the skin and increase evaporation and cooling; and
 - (vi) using cooled air from an air-conditioning system to cool work areas.
- (d) Work is to be planned so that an appropriate number of employees are acclimatized and prepared to work in a high temperature environment.
- (e) Employees shall not work alone in heat stress areas, in accordance with *AD EHS RI – CoP 30.0 – Lone Work and/or in Remote Locations*.
- (f) Any Personal Protective Equipment provided shall be in accordance with *AD EHS RI – CoP 2.0 – Personal Protective Equipment*.
- (g) Appropriate cool fluids shall be available and accessible by employees to maintain appropriate hydration during periods of high temperature. If refillable containers (eg. water coolers) are used, the seal shall be taped with the date the container was filled written on the tape. Refillable containers shall be cleaned and refilled daily and containers without a taped and dated seal shall be not be used for rehydration of employees.
- (h) Posting of urine charts, informational fliers on heat stress, or other similar methods to help employees identify if they are becoming dehydrated. (Example of a urine chart can be found in *AD EHSMS RF – Technical Guideline – Safety in the Heat*).
- (i) Employees working in high temperature environments shall be provided a cooler area to rest during breaks in order to reduce body heat. Duration of breaks, extent of clothing removal, and rest area shall be appropriate for conditions at the site.

- (j) Employers with high temperature work environments shall implement the following protocol in case of dehydration or heat illness:
- (i) Ensure first aid or medical treatment is readily available if an employee begins to feel symptoms of heat illness or dehydration,; and
 - (ii) ensure fellow employees and/or supervisors know how to call for additional emergency medical assistance if required or if the employee complains of chest pains, or has symptoms of heat stroke.

4. Record Keeping

- (a) At a minimum, the following information shall be documented and records kept for a heat stress program:
- (i) details of heat stress program initiatives and activities conducted;
 - (ii) details of training, information, education and awareness resources and materials communicated to employees regarding working in hot environments;
 - (iii) details of heat stress related facilities and services provided to exposed employees, contractors and visitors to the workplace(s);
 - (iv) records of program evaluation such as cost effectiveness, cost benefit of interventions, comparative statistics with previous years, employee satisfaction or process evaluation; and
 - (v) records of heat stress related incidents.

5. References

- AD EHSMS RF – Element 01 – Roles, Responsibilities and Self-Regulation
- AD EHSMS RF – Element 02 – Risk Management
- AD EHSMS RF – Element 5 – Training and Competency
- AD EHSMS RF – Element 07 – Monitoring, Investigation and Reporting
- AD EHSMS RF – Element 08 – Audit and Inspection
- AD EHS RI – CoP 2.0 – Personal Protective Equipment
- AD EHS RI – CoP 5.0 – Medical Surveillance
- AD EHS RI – CoP 8.0 – General Workplace Amenities
- AD EHS RI – CoP 9.0 – Workplace Wellness
- AD EHS RI – CoP 30.0 – Lone Work and/or in Remote Locations
- AD EHSMS RF – Technical Guideline – Safety in the Heat
- HAAD – Safety in the Heat Program: <http://haad.ae/safety-in-heat>

Amendment History

Version #	Revision Date	Description of Amendment (compared to previous version)	Page/s Affected
2.0	Feb 2012	First Issue	All
2.1	TBD	Introduce (in Clause 2(d)(ii)) the need to add only “a little extra” salt.	7
		Change “monitor” (in clause 2(d)(iii)).to “self-monitor”, to differentiate urine colour test from more complex tests performed by medical personnel.	7
		Change “TWL Withdrawal Zone” (in clause 3.2(b)(x)) to “TWL High Risk Zone”, to link with new classification of risk zones	10
		Change website of the Safety in Heat Program under Clause 5.	11

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