

مركز أبوظبي للصحة المهنية
ABU DHABI OCCUPATIONAL SAFETY AND HEALTH CENTER

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Abu Dhabi Occupational Safety and Health System Framework

(OSHAD-SF)

Code of Practice

CoP 27.0 – Confined Spaces

Version 3.1

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ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
للصحة العامة



Important Note:

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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 Occupational Safety and Health Centre (OSHAD) and Sector Regulatory Authorities in the Emirate of Abu Dhabi.
- (b) This CoP establishes the requirements and standards so that the risks associated with confined Spaces 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) *OSHAD-SF – Technical Guideline - Safe Work in Confined Spaces* provides further information on how employers can comply with the requirements of this CoP. The information contained within the technical guide is not mandatory, however is seen as best advice and following the information within the technical guide will assist employers in complying with the requirements of this CoP.

2. Training and Competency

2.1 General Training

- (a) Where it has been identified that the employer has confined spaces within his facilities or undertakings the employer shall ensure that all relevant employees are trained on the hazards of confined spaces and the need to prevent unauthorised entry.

2.2 Specific Confined Space Entry Training

- (a) Employers shall ensure that OSH training complies with the requirements of:
- (i) *OSHAD-SF – Element 5 – Training, Awareness and Competency;*
 - (ii) *OSHAD-SF – Mechanism 7.0 – OSH Professional Entity Registration; and*
 - (iii) *OSHAD-SF – Mechanism 8.0 – OSH Practitioner Registration.*
- (b) Employers shall develop and implement a training program appropriate to ensure that all relevant employees who enter a Permit Required Confined Space (PRCS) acquire the understanding, knowledge, and skills necessary for the safe performance of all duties assigned under the PRCS Program.
- (c) The training program shall cover, as a minimum the following areas:
- (i) hazard identification;
 - (ii) equipment selection and testing;
 - (iii) permits to work;
 - (iv) safe working procedures – general and specific to the entry;
 - (v) hygiene;
 - (vi) gas detection and monitoring;
 - (vii) use of oxygen escape sets (if required through risk assessment);
 - (viii) type, selection and use of PPE; and
 - (ix) incident and emergency procedures.
- (d) The employer shall ensure that training is provided to each affected employee:
- (i) before the employee is first assigned duties involving PRCS entry;
 - (ii) before there is a change in assigned duties;
 - (iii) whenever there is a change in PRCS operations that presents a hazard about which an employee has not previously been trained; and
 - (iv) whenever the employer has reason to believe either that there are deviations from the PRCS entry procedures or that there are inadequacies in the employee's knowledge or use of these procedures.

- (e) Employers shall maintain a record of the required training that contains the following information:
- (i) name and Emirates ID number of the employee;
 - (ii) subject(s) of training;
 - (iii) training provider;
 - (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 *OSHAD-SF – Element 1 – Roles, Responsibilities and Self-Regulation* Section 3.2.5.
- (b) Employers shall undertake their specific roles and responsibilities in accordance with the following:
 - (i) employers shall ensure that all activities that require persons to work within a confined space, are identified and recorded;
 - (ii) employers shall allow entry to confined space only when it is not reasonably practicable to achieve the purpose without such entry to the confined space; and
 - (iii) employers shall ensure that all persons required to enter a confined space are competent and fully aware of the emergency procedures.

3.1.2 Employees

- (a) Employees shall undertake their roles and responsibilities in accordance with the general requirements of *OSHAD-SF – Element 1 – Roles, Responsibilities and Self-Regulation* Section 3.2.7.
- (b) Employees shall undertake their specific roles and responsibilities in accordance with the following:
 - (i) never enter a confined space unless authorised to do so and only once appropriate control measures have been identified and implemented; and
 - (ii) report any hazards and defects immediately.

3.2 Planning and Assessment

- (a) Employers shall ensure the following:
 - (i) an assessment of the various risks is undertaken and systems of work are established which are safe to all parties involved or affected including the public;
 - (ii) that effective procedures and controls are in place, which are implemented in order to manage activities safely and without risk to health;
 - (iii) that for the Building and Construction Sector the management of confined spaces requirements are included in the Pre-Tender Safety and Health Plan in accordance with *OSHAD-SF – CoP 53.0 – OSH Management During Construction Work*; and
 - (iv) that associated safe systems of work, and site rules are included in the Safety and Health Construction Management Plan (OSH-CMP) in the case of the Building and Construction Sector in accordance with *OSHAD-SF – CoP 53.0 – OSH Management During Construction Work*.

3.3 Definition

- (a) "Confined space" means any place, including tanks, vessels, pipes, sewers, silos, storage bins, hoppers, vaults, pits, excavations, manholes or other similar space that by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk.
- (b) A reasonably foreseeable specified risk means a risk of:
- (i) serious injury to any person at work arising from a fire or explosion;
 - (ii) without prejudice to clause (i):
 1. the loss of consciousness of any person at work arising from an increase in body temperature;
 2. the loss of consciousness or asphyxiation of any person at work arising from gas, fume, vapour or the lack of oxygen;
 - (iii) the drowning of any person at work arising from an increase in the level of liquid; or
 - (iv) the asphyxiation of any person at work arising from a free flowing solid or the inability to reach a respirable environment due to entrapment by a free flowing solid.

3.4 Identification of Confined Spaces

- (a) Every employer shall ensure that all activities that require persons to work within a confined space are identified and recorded.
- (b) Every employer shall ensure that all identified confined spaces are clearly identified to all persons with a sign reading – *CONFINED SPACE – PERMIT REQUIRED – DO NOT ENTER*. All safety signs shall be in line with the requirements of *OSHAD-SF – CoP 17.0 – Safety Signs and Signals*.
- (c) The language of the sign shall be in both Arabic and English, and any other language appropriate for the understanding and comprehension of the exposed workforce.
- (d) The employer shall, in line with section 2.2 inform all affected persons of the general hazards of the identified confined spaces and the safe working procedures for entry.

3.5 Work in Confined Spaces

- (a) Where it has been deemed required, in line with the requirements of section 3.4(a), for persons to enter a confined space for work purposes, every employer shall develop a Permit Required Confined Spaces Program (PRCSP).
- (b) The PRCSP program shall include, as a minimum, the following items:
- (i) list of all identified PRCSPs;
 - (ii) activities undertaken, under normal operation, within the confined space;
 - (iii) list of competent confined space entry persons;
 - (iv) list of competent emergency rescue persons, in relation to confined spaces;
 - (v) list of all associated equipment, including calibration requirements;
 - (vi) record of all entry into a confined space, including persons undertaking the entry and/or supervising the tasks; and

- (vii) specific risk assessment and safe working procedures for each confined space identified in line with *Section 3.2*.
- (c) The PRCS shall be readily available for inspection by staff and/or relevant regulatory authorities.

3.6 Risk Assessment

- (a) Every employer shall undertake an appropriate risk assessment for each entry into a confined space.
- (b) The risk assessment shall be specific to the activity being undertaken and to the time and date of entry.
- (c) The risk assessment shall follow the requirements of *OSHAD-SF – Element 2 – Risk Management*.
- (d) The risk assessment shall identify all foreseeable hazards related to the persons entering and/or working within the confined space. The risk assessment shall also consider any additional risks introduced to others due to the work being undertaken within the confined space.
- (e) The risk assessment shall also consider assessment of any previous content or residue present within the confined space.
- (f) The risk assessment shall also include any emergency situations that may occur as a result of the work being undertaken.
- (g) Completed risk assessments shall be held within the PRCS program as reference and record for each individual entry to a confined space.

3.7 Safe Working Procedure

- (a) Every employer shall develop safe working procedures for each identified PRCS which his employees shall enter.
- (b) The safe working procedure shall be specific to the activity being undertaken and to the time and date of entry.
- (c) The employer shall ensure that the persons undertaking the task within the PRCS fully understand and comprehend the safe working procedure.
- (d) The safe working procedure shall as a minimum contain information on:
 - (i) provision of supervision (safety watch);
 - (ii) competence for employees working in confined space;
 - (iii) communications methods and procedures;
 - (iv) emergency response procedure and rescue plan(s);
 - (v) testing and monitoring of the environment (atmosphere) of the confined space;
 - (vi) ventilation and removal of residues;

- (vii) isolation from gases and other hazardous materials;
- (viii) liquids and other flowing materials;
- (ix) isolation from mechanical and electrical equipment;
- (x) selection and use of appropriate equipment;
- (xi) selection and use of Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE);
- (xii) use of portable gas cylinders and internal combustion engines;
- (xiii) access and egress;
- (xiv) fire prevention and control;
- (xv) lighting inside the confined space; and
- (xvi) limiting duration of exposure (working in the confined space).

3.8 Emergency Procedures

- (a) No person shall enter or work within a PRCS unless appropriate specific arrangements have been prepared for the rescue of persons in the event of an emergency, whether or not arising from a specified risk.
- (b) The emergency arrangements shall be specific to the activity being undertaken and to the time and date of entry.
- (c) The emergency arrangements referred to in the CoP shall not be considered appropriate unless:
 - (i) they reduce, so far as is reasonably practicable, the risks to the health and safety of any person required to put the arrangements for rescue into operation; and
 - (ii) they require, where the need for resuscitation of any person is a reasonably foreseeable consequence of a relevant specified risk, the provision and maintenance of such equipment as is necessary to enable resuscitation procedures to be carried out.

3.9 Communication

- (a) Every employer shall ensure that appropriate communication systems are in place prior to entry into a PRCS.
- (b) The communication system shall ensure uninterrupted communication:
 - (i) between those inside the PRCS;
 - (ii) between those inside the PRCS and those outside the PRCS;
 - (iii) to summon help in case of an emergency;
 - (iv) between those outside the PRCS to raise the alarm to those inside the PRCS; and
 - (v) from those outside the PRCS to initiate emergency procedures;
- (c) Communication systems shall be intrinsically safe, reliable and frequently tested.

3.10 Confined Space Entry Permit / Permit to Work

- (a) Every employer shall, prior to entry to a confined space, ensure that a confined space entry permit has been completed.
- (b) Entry into the confined space shall be prohibited until all conditions as identified within the confined space entry permit have been satisfied and verified.
- (c) The entry permit system shall follow the requirements of *OSHAD-SF – CoP 21.0 – Permit to Work Systems*.
- (d) Each Permit to Entry / Work shall be specific to the activity being undertaken and to the time and date of entry.
- (e) Employers shall ensure prior to the commencement of confined space work, the following precautions are taken, to prevent any fire, explosion, injury or other danger developing during the performance of confined space work:
 - (i) ensure the appropriate ventilation of the confined space work area, including, atmospheric oxygen concentration levels between 19.5% and 23.5%;
 - (ii) ensure constant supervision and stand-by man;
 - (iii) appropriately locate the equipment, including emergency fire fighting equipment;
 - (iv) isolate the area where the confined space work is to be performed;
 - (v) ensure the provision of a safe entry to and exit from the confined space area;
 - (vi) the testing for the presence of any flammable gas or flammable vapour in the confined space work area;
 - (vii) ensure the concentration of any flammable gas or flammable vapour, as determined by the testing required is less than 5% of its Lower Explosion Limit (LEL);
 - (viii) if specified by the confined space permit, a firewatcher shall be stationed in the area near the work, for the safe conduct of the confined space work and shall ensure that no condition arises that will lead to a hazardous situation in the confined space work area;
 - (ix) the confined space work area shall be secured overnight and at the expiry of a confined space work permit, to ensure unauthorized entry;
 - (x) at the completion of a job, the equipment shall be returned to its normally secure mode and the fire fighting equipment that has been brought to the Confined space work area shall be returned to its normal storage; and
 - (xi) at the completion of a job the “confined space work permit” shall be signed off.

4. References

- *OSHAD-SF – Element 1 – Roles, Responsibilities and Self-Regulation*
- *OSHAD-SF – Element 2 – Risk Management*
- *OSHAD-SF – Element 9 – Compliance and Management Review*
- *OSHAD-SF)– CoP 4.0 – First Aid and Medical Treatment*
- *OSHAD-SF– CoP- 17.0 – Safety Signs and Signals*
- *OSHAD-SF – CoP 21.0 – Permit to Work Systems.*
- *OSHAD-SF – CoP 24.0 – Lock out / Tag out*
- *OSHAD-SF – CoP 28.0 – Hot Work Operations*
- *OSHAD-SF – CoP 30.0 – Lone Working / Working in Remote Locations*
- *OSHAD-SF – CoP 36.0 – Plant and Equipment*
- *OSHAD-SF – CoP 52.0 – Local Exhaust Ventilation*
- *OSHAD-SF – CoP 53.0 – OSH Management During Construction Work*
- *OSHAD-SF - CoP 53.1 – Construction Management Plan*
- *OSHAD-SF Technical Guideline – Safe Work in Confined Spaces*
- *L101 – Safe work in confined spaces – HSE Books – ISBN 97871766233 3*

5. Document Amendment Record

Version	Revision Date	Description of Amendment	Page/s Affected
2.0	February 2012	New Document	N/A
2.01	April 2015	Clause 3.1.1 (b) (iii) updated to correct a spelling mistake	8
		Clause 3.1.1 (b) (ii) – this clause has been updated to read: <i>Employers shall allow entry to confined space only when it is not reasonably practicable to achieve the purpose without such entry to the confined space;</i>	8
		Clause 3.5 (a) - This clause has been deleted as it is a duplication of Clause 3.1.1(b) (ii).	9
3.0	1 st July 2016	Change of Logo	All
		Change from AD EHS Center to OSHAD	throughout
		Change of document title: AD EHSMS RF to OSHAD-SF	Throughout
		Acknowledgements deleted	2/3
		Preface Deleted	4
		EHS changes to OSH	Throughout
3.1	3 rd March 2019	Definition of a confined space updated, clause 3.3.	7
		Section 4 (References) amended (CoP 6.0 deleted, and CoPs 53.0 and 53.1 added)	11

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