



# Abu Dhabi Occupational Safety and Health System Framework (ADOSH-SF)

Code of Practice

CoP 31.0 - Working On, Over or Adjacent to Water

Version 4.0

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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 Public Health Centre (ADPHC) and Sector Regulatory Authorities in the Emirate of Abu Dhabi.
- (b) This CoP established the requirements and standards so that the risks associated with working on, over or adjacent to water are assessed, that control measures are implemented in accordance with the hierarchy of controls and that control measures are taken to prevent injury, illness and disease to persons who might be exposed to risks arising from those activities.
- (c) Principal Contractor when used in this CoP refers to the main contractor overseeing and responsible for activities undertaken on the site within the Building and Construction Sector. Refer to *ADOSH-SF - CoP 53.0 - OSH Management During Construction Work*.
- (d) Working on, over or adjacent to water involves several hazards in addition to those related to working at heights. These include, but are not limited to:
  - (i) slipping, tripping or falling into the water and drowning;
  - (ii) being swept away by fast moving water causing injury or drowning;
  - (iii) being struck by water traffic; and
  - (iv) falling into the water with electrical equipment and suffering electric shock.

## 2. Training and Competency

- (a) Employers shall ensure that OSH training complies with the requirements of:
- (i) *ADOSH-SF - Element 5 - Training, Awareness and Competency;*
  - (ii) *ADOSH-SF - Mechanism 7.0 - Occupational Safety and Health Practitioner and Service Provider Registration.*
- (b) Employers shall provide a training program appropriate to ensure that all persons involved in working on, over or adjacent to water acquire the understanding, knowledge, and skills necessary for the safe performance of all duties.
- (c) Training is to be provided to exposed employees prior to assignment to jobs and shall include, at a minimum, the following:
- (i) types of protection equipment to be used at the site including:
    - 1. buoyancy aids; and
    - 2. either a fall restraint or fall arrest system;
  - (ii) fall hazards associated with the work to be completed;
  - (iii) procedures for removal of fall protection devices from service for repair or replacement;
  - (iv) fall protection equipment identification methods;
  - (v) equipment maintenance and inspection requirements;
  - (vi) equipment donning and doffing procedures, and opportunity for each employee to use the equipment in a field exercise; and
  - (vii) equipment strengths and weight limitations.
- (d) Employers shall ensure a competent first aider, trained in Cardiac Pulmonary Resuscitation (CPR) and familiar with both rescue and treatment of drowning, is always readily available on all contracts involving working on, over or adjacent to water, as per the requirements of *ADOSH-SF - CoP 4.0 - First Aid and Medical Treatment.*
- (e) Employers shall ensure:
- (i) all employees are to be trained in raising alarms, and shall regularly practice rescue drills;
  - (ii) each person is trained in what to do in the event of an emergency; and
  - (iii) each person is trained in the rescue procedure.
- (f) Employers shall ensure persons providing water safety for working over water are to hold a current first aid certificate.
- (g) Refresher training shall be conducted when the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by this CoP. The training content shall be identical to initial training. Circumstances where retraining is required include, but are not limited to, the following conditions:

- (i) whenever (and prior to) a change in job assignment is made;
  - (ii) when there is a change in the type of equipment used; or
  - (iii) when a known hazard is added to the work environment.
- (h) The employer shall conduct additional retraining whenever a periodic inspection reveals, or there is reason to believe, that there are deviations from implemented procedures.
- (i) Employers shall maintain a record of the required training that contains the following:
- (i) name and ID number;
  - (ii) Emirates ID number of the employee;
  - (iii) subject(s) of training;
  - (iv) dates(s) of training;
  - (v) if applicable, organization providing training; and
  - (vi) person(s) providing the training.

### 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 *ADOSH-SF - Element 1 - Roles, Responsibilities and Self-Regulation* Section 3.2.5.
- (b) Employers shall be responsible for performing a risk assessment in accordance with *ADOSH-SF - Element 2 - Risk Management* to determine the risks associated with working on, over or adjacent to water. Employers shall implement control measures and safe work practices to reduce employee's exposures to task(s) that could cause an injury.
- (c) Employers shall undertake their specific roles and responsibilities in accordance with the following:
  - (i) all work on, over or adjacent to water is appropriately planned, organized and appropriately supervised;
  - (ii) the risks from falling into the water and drowning are appropriately managed;
  - (iii) appropriate control measures are in place to rescue anyone who falls into the water;
  - (iv) all emergency and rescue equipment is appropriately inspected;
  - (v) those involved in working on, over or adjacent to water are trained and competent;
  - (vi) all staff required to fulfill water safety operations are competent in the required skills and hold the necessary qualifications; and
  - (vii) all employees comply with the safety instructions for working on, over or adjacent to water.

##### 3.1.2 Employee

- (a) Employees shall undertake their roles and responsibilities in accordance with the general requirements of *ADOSH-SF - Element 1 - Roles, Responsibilities and Self-Regulation* Section 3.2.7.
- (b) Employees shall:
  - (i) adhere to information provided by the employer regarding equipment use;
  - (ii) observing safe work practices and operating procedures prescribed by the employer;
  - (iii) shall use appropriate PPE, equipment or safety device provided for work by the employer in accordance with any training or instruction received;
  - (iv) ensure supervisor and other employees are aware of their location and work area;

- (v) have knowledge of emergency response procedures and how to raise an alarm; and
- (vi) reporting any activity or defect which they believe is reasonably foreseeable to endanger their safety or another person.

### 3.2 Planning and Assessment

- (a) Employers shall ensure the following:
  - (i) that effective procedures and control measures are in place, which are implemented in order to manage activities safely and without risk to health;
  - (ii) that for the Building and Construction Sector the management of working on, over or adjacent to water requirements are included in the Pre-Tender Safety and Health Plan in accordance with *ADOSH-SF - CoP 53.0 - OSH Management During Construction Work*; and
  - (iii) 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 *ADOSH-SF - CoP 53.0 - OSH Management During Construction Work*.
- (b) When planning work on, over or adjacent to water, employers shall consider if there are specific water related risks such as:
  - (i) people falling from structures or scaffolds into water;
  - (ii) inappropriate lighting and poor visibility;
  - (iii) electrical equipment coming into contact with water;
  - (iv) difficulty in conducting rescues;
  - (v) water current and environment; and
  - (vi) people unable to swim.

### 3.3 Personal Protective Equipment

- (a) Employers shall ensure they follow the requirements of *ADOSH-SF - CoP 2.0 - Personal Protective Equipment*.
- (b) Employers shall ensure:
  - (i) all employees wear an appropriately fitting Type I or Type II rated Personal Flotation Device (PFD) buoyancy aid if there is a risk of drowning;
  - (ii) all employees shall wear slip resistant footwear;
  - (iii) appropriate fall protection control measures are implemented; and
  - (iv) employees check their personal protective equipment is in working order before, during and after use.

### 3.4 Health and Hygiene

- (a) When performing work in the summer or high temperature environments, employers shall ensure they follow the requirements of *ADOSH-SF - CoP 11.0 - Safety in the Heat*.
- (b) When performing work in a remote area, or an area where toilet facilities are not available or within walking distance, employers shall ensure they follow the requirements of *ADOSH-SF - CoP 8.0 - General Workplace Amenities*.

### 3.5 Barriers

- (a) Employers shall ensure a fence or barrier is provided where there is a risk of people falling into water and could include:
  - (i) temporary walkways and handrails, walkways, stairways and ladders; and
  - (ii) scaffolding 'A Frame' barriers or tube and fitting guardrails.

### 3.6 Signage

- (a) Employers shall display warning signs/notices to advise waterside personnel that there is a worksite overhead, as per the requirements of *ADOSH-SF - CoP 17.0 - Safety Signage and Signals*.

### 3.7 Lighting

- (a) Employers shall ensure that:
  - (i) lighting is provided for the duration of work as required to ensure that work can be carried out safely;
  - (ii) lighting is provided for night work near water, especially in shafts, dark corners and stairways;
  - (iii) an even spread of light to avoid deceptive shadows and glare;
  - (iv) the area floodlit shall always include the immediate water surface;
  - (v) that spotlights on swivels are fixed at strategic points to assist in locating a person in the water; and
  - (vi) navigation lights are used if they are needed on working places afloat or sited close to the shore.

### 3.8 Plant and Equipment

- (a) Employers shall ensure:
  - (i) the use of electrical equipment is to be strictly controlled;
  - (ii) that electrical leads are not long enough to touch the water;
  - (iii) electrical equipment is to be connected to lines to prevent them from dropping into the water; and
  - (iv) Residual Current Devices (RCDs) are to be used with 30mA protection in the case of portable electrical tools.

**Note:** Refer to *ADOSH-SF - CoP 35.0 - Plant and Equipment*.



### 3.9 Water Current and Environment

- (a) Employers shall assess the area for thick vegetation or wide mud flats that could impede rescue efforts.
- (b) After assessing the width, depth and speed of any water current, provide an appropriate water rescue capability as outlined in the table 1 below.

Lifebuoys	Power Boats and Communication Systems
<p>If a worksite is close enough to water for a thrown lifebuoy to reach a person in the water, provide a lifebuoy with rope at the worksite.</p>	<p>If a worksite is too far from water for a thrown lifebuoy to reach a person in the water:</p> <ul style="list-style-type: none"> <li>• provide a readily accessible power boat always maintained with a full tank of fuel. Additionally the boat shall be capable of being rowed and equipped with oars in the event of engine failure. The boat is to be of an appropriate size and provided with appropriate life jackets;</li> <li>• provide a boat operator who remains in the vicinity of the boat at all times. The boat operator is to carry a communication device that allows employees on the bridge or land to contact the boat operator;</li> <li>• either locate communication systems not more than 400m apart on the bridge/land or ensure a person on the bridge/land carries a communication device;</li> <li>• test the communications systems at the start of every shift and again when work resumes after a break; and</li> <li>• where the distance from land exceeds 400m, or work is carried out at more than one location on a bridge, a power boat and a boat operator is to be provided on both banks.</li> </ul>

*Table 1: Rescue Capacity*

### 3.10 Platforms, Gangways

- (a) Employers shall ensure:
- (i) platforms and gangways are a minimum of 4 boards wide (800mm) complete with guard rails and toe boards at all edges from which a person might fall into the water;
  - (ii) secure barriers or fences are provided;
  - (iii) warning notices are erected at all edges and boundaries near water and set so that they are easily seen by employees approaching the danger point;
  - (iv) where platforms or gangways are erected above tidal water, decking boards are secured so that they cannot become dislodged by rising water or high winds;
  - (v) the provision of additional handholds as a precaution in the event of high winds; and
  - (vi) barges, pontoons etc. used as working platforms, are appropriately constructed and appropriately stable to avoid persons falling with their movement.

**Note:** Refer to *ADOSH-SF - CoP 23.0 - Working at Heights*.

### 3.11 Ladders

- (a) Employers shall ensure that:
- (i) work with ladders is in accordance with *ADOSH-SF - CoP 37.0 - Ladders*;
  - (ii) ladders are sound and of appropriate length and strength;
  - (iii) ladders are securely lashed to prevent slipping; and
  - (iv) where ladders are permanently fitted to plant over water, they shall be fitted with safety hoops.

### 3.12 Safety Nets and Safety Harnesses

- (a) Employers shall ensure that:
- (i) safety nets shall be appropriately secured and slung appropriately far above high water level for anyone caught in them to remain clear and to ensure access of rescue craft;
  - (ii) manufacturers shall be consulted on what type of net best suits the kind of work to be carried out and the prevailing conditions; and
  - (iii) safety harnesses shall be used as a last resort where physical collective protective control measures and prevention of falls cannot be achieved.

**Note:** Refer to *ADOSH-SF - CoP 23.0 - Working at Heights*.

### 3.13 Site Housekeeping

- (a) Employers shall ensure:
- (i) tools, ropes and other materials not in use shall be stored away and all rubbish cleared up promptly;
  - (ii) materials awaiting use shall be stacked compactly and, particularly on pontoons, not piled more than two pallets high;
  - (iii) slippery surfaces shall be treated immediately, as they are extremely dangerous;
  - (iv) oily or greasy surfaces shall be gritted or treated with industrial salt or sand (or other type of appropriate absorbent material);
  - (v) drip trays shall be sand filled and set beneath all machinery to prevent the development of oily, slippery surfaces and, especially on pontoons, to minimize fire hazards; and
  - (vi) all spillages shall be cleaned up as soon as practicable, spill kits shall be available onsite and include booms that can be deployed on water.

**Note:** Refer to *ADOSH-SF - CoP 8.0 - General Workplace Amenities*.

### 3.14 Weather Conditions

- (a) Employers shall obtain the local weather conditions, monitor communicate at the beginning of each day's work or shift. Hot weather, rain, rising winds, fog, sea mist, are all potential dangers.

- (b) Employers shall monitor the weather conditions for deterioration during the work activity and suspend work when there is a risk of weather conditions that may affect work being carried out safely.

### 3.15 First Aid

- (a) Employers shall ensure a competent first aider, trained in Cardiac Pulmonary Resuscitation (CPR) and familiar with both rescue and treatment of drowning, is always readily available on all contracts involving working adjacent on, over or adjacent to water, as per the requirements of *ADOSH-SF - CoP 4.0 - First Aid and Medical Treatment*.
- (b) The ideal person to be trained to this standard would be the person in charge of the rescue boat.

### 3.16 Rescue

- (a) Employers shall consider the following main points when rescuing a person from drowning:
  - (i) choose the safest way to rescue the injured or retrieve the victim. For conscious and responding people, if reasonably practicable, stay on land and reach with a hand or stick, or throw a rope or float;
  - (ii) when bringing the casualty out of the water, carry them with their head lower than their chest, to minimize the dangers of inhaling vomiting;
  - (iii) treat for drowning and the possible effects of cold; and
  - (iv) ensure employees receive appropriate medical treatment (e.g., physical examination by a Doctor), even if they seem to have recovered well.

*Note: Refer to ADOSH-SF - Element 6 - Emergency Management.*

### 3.17 Buoyancy Aids

- (a) Employers shall ensure an appropriately fitting Type I or Type II rated PFD shall be worn as standard practice.
- (b) Employers shall ensure the buoyancy aids are appropriate for the work and the hazards, conform to comparable international rating standards, and in addition shall:
  - (i) provide appropriate freedom of movement for persons required to wear and work in them;
  - (ii) have appropriately buoyancy to bring persons to the surface and keep them afloat, face up;
  - (iii) be easily secured to the body;
  - (iv) be readily visible;
  - (v) be capable of withstanding hard treatment;
  - (vi) require minimum maintenance (inflatable types need frequent checking);
  - (vii) not to be prone to snagging under water; and
  - (viii) have clip-on, self-igniting lights.

### 3.18 Means of Access: Water Transport

- (a) Where working places are situated on water, and access is only reasonably practicable by passenger carrying boats, these crafts are subject to the Abu Dhabi Ministry of Communication and Coast Guard regulations main requirements of passenger carrying craft which include:
  - (i) prior to use, they shall be registered with the above establishments;
  - (ii) their registration shall be renewed annually; and
  - (iii) they are only allowed to operate within a stipulated number of passengers according to size.
- (b) Water craft shall be provided with the appropriate life - saving and fire fighting appliances as specified by Coast Guard and other relevant regulatory departments. These may include the following:
  - (i) Type I or Type II approved life jackets;
  - (ii) lifebuoy(s) with buoyant heavy line attached;
  - (iii) VHF radio if craft longer than 10.7m;
  - (iv) distress flares;
  - (v) first aid box; and
  - (vi) dry powder or foam type extinguisher(s).

### 3.19 Lifebuoys and Rescue Lines

- (a) Employers shall ensure:
  - (i) lifebuoys which are normally 765mm outside diameter shall be fitted with a 30m buoyant life line, knotted at every 3 meters to assist handhold;
  - (ii) life lines shall be long enough to allow for all states of the tide, the height of working place above water, or for the person being carried downstream by a current;
  - (iii) lifebuoys may be constructed of either cork or canvas covering, or of polyurethane foam with a rigid PVC cover;
  - (iv) if night work is carried out, approved self-ignition type lights shall be used; and
  - (v) daily checks to be made to ensure that lifebuoys and rescue lines are in their appropriate place and in serviceable condition.

### 3.20 Grab Lines/Throw Lines

- (a) Employers shall ensure grab lines/throw lines:
  - (i) are attached to the working place, or at other places downstream to give the person something to grab in an emergency;
  - (ii) shall be long enough to allow for the normal rise and fall in tide; and
  - (iii) shall be of the buoyant type with a marker float at the free end.
- (b) In their usage:
  - (i) trailing ends of lines are to be avoided so that there is no risk of boats being fouled; and
  - (ii) daily checks are to be made to ensure that they are still in position and that their condition is sound.

### 3.21 Rescue

- (a) Employers shall ensure:
  - (i) all employees are trained in raising alarms, and regularly practice rescue drills;
  - (ii) all boat and water craft operators are appropriately licensed;
  - (iii) if a boat or lifebuoy is used when a person falls into the water, all work is to stop until the boat or lifebuoy has been reset and is ready for next use; and
  - (iv) persons providing water safety for working over water are to hold a current first aid certificate.

#### 3.21.1 Rescue Boat

- (a) Employers shall ensure:
  - (i) boats are appropriately licensed in the Emirate of Abu Dhabi and are maintained to manufacturer's requirements;
  - (ii) boats are operated by competent employees with the appropriate license in the Emirate of Abu Dhabi;
  - (iii) boats are inspected by a competent person prior to use to ensure they are in appropriate operating condition and so not have any water leaks, fuel leaks, structural damage or other conditions that could make the boat unsafe to use;
  - (iv) where conditions merit, inflatable craft are recommended since they provide a better chance of getting a person aboard without injury;
  - (v) for work in tidal or fast flowing river water, a power driven craft equipped with a fixed self-starting device on the motor is essential;
  - (vi) engines of powered craft, when not patrolling, shall be tested periodically to ensure full operation;
  - (vii) rescue boats shall carry three oars or paddles to cater for losing one overboard;
  - (viii) rowlocks shall be removable and on retaining lines so that they can hang from the side without being lost;

- (ix) rescue boats shall be fitted with grab lines and carry at least one Type I, Type II or Type IV rated PFD (portable PFD) that is designated for use to assist in a rescue;
- (x) effective two-way communication between boat and shore is always available;
- (xi) where night work is to take place, a powerful spotlight shall be fitted;
- (xii) whilst work is in progress rescue boats shall be manned continuously and on patrol by experienced boatmen trained in first aid, resuscitation and emergency procedures;
- (xiii) there shall be a minimum of two persons on a boat so that one is free to attend to the person in the water;
- (xiv) for large rescue boats, they shall be proved with an over side boarding ladder or equivalent means to help rescue any unconscious person from the water; and
- (xv) appropriate first aid equipment on board.

### 3.21.2 Rescue Procedure

- (a) Employers shall ensure that:
  - (i) the number of persons at work is periodically checked to ensure that no one is missing;
  - (ii) operatives work in pairs so that there is always one to raise the alarm;
  - (iii) each person is trained in what to do in the event of an emergency;
  - (iv) the rescue procedure consists of:
    1. a set routine for raising the alarm;
    2. a set drill to provide rescue facilities; and
    3. a set routine for getting persons to hospital whether for check-up through immersion in water, or for treatment as the result of an injury.

### 3.21.3 Inspection

- (a) Employers shall ensure that workings over water protection systems are ready and able to perform their required tasks. An inspection and maintenance procedure for this shall be implemented and maintained including the following, as a minimum:
  - (i) equipment manufacturer's instructions shall be incorporated into the inspection and preventive maintenance procedures; and
  - (ii) all working over water protection equipment shall be inspected prior to each use, and a documented inspection conducted at intervals not to exceed 6 months, or in accordance with the manufacturers guidelines.

#### 4. References

- *State of California, Department of Boating and Waterways, "Safe Boating Hints on Personal Flotation Devices."*
- *Transport Safety Victoria (Australia), Marine Safety, "Personal Flotation Device Buyers Guide."*

## 5. Document Amendment Record

<i>Version</i>	<i>Revision Date</i>	<i>Description of Amendment</i>	<i>Page/s Affected</i>
4.0	DATE	<i>System acronym updated from OSHAD-SF to ADOSH-SF to accurately reflect document title</i>	Throughout
		<i>Change from OSHAD to ADPHC</i>	
		<i>Change of Logo</i>	
		<i>Minor editorial changes throughout the document without changing requirements.</i>	
		<i>Title of Mechanism 7.0 updated to ADOSH-SF - Mechanism 7- Occupational Safety and Health Practitioner and Service Provider Registration</i>	
		<i>OSHAD-SF - Mechanism 8.0 - OSH Practitioner Registration deleted</i>	







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