



# DUBAI AVIATION CITY CORPORATION OHSE CODE OF PRACTICES



DATE: 28.10.2019

DACC CODE OF PRACTICE – SAFETY REQUIREMENTS  
FOR CRANES, HOISTS, LIFTS AND OTHER LIFTING



## SAFETY REQUIREMENTS FOR CRANES, HOISTS, LIFTS AND OTHER LIFTING APPLIANCES

DACC (DUBAI SOUTH) Code of Practice  
Document Reference No.: DACC.DS.OPS.OHSE.OST.13.LA

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### 1.0 INTRODUCTION

- (a) This Code of Practice (COP) are mandatory to all duty holders, entities or organizations operating within the Dubai South jurisdiction. This COP is designed to incorporate requirements set by Dubai Aviation City Corporation (DACC) Occupational Health, Safety and Environment (OHSE) Department and Dubai South Management. If requirements of this document conflict with requirements set by another regulatory authority, employers / organizations are required to follow the more stringent requirement.
- (b) Operational facilities means the business operating in Dubai South such as Offices, Educational Institutions, Medical Facilities, Logistics and Warehouse Facilities, Factories, Recreational Facilities, Multi Store Apartments, Retail Facilities, etc. and all other facilities which are registered under Dubai South License.
- (c) A duty Holder is defined as;
  - (i) the person(s) who owns or is in control, through contact or tenancy, of non-domestic premises;
  - (ii) With regard to multiple tenanted premises, the duty holder shall be the person who owns or is in control of the building, including access and egress
  - (iii) All other persons shall cooperate with the with the duty holder to allow them to comply with their duties requirements under this COP.
- (d) This COP establishes the requirements and standards so that the risks associated with lifting operation and the use of lifting equipment and lifting accessories 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.
- (e) This COP applies to lifting operations and the use of all types of lifting equipment and lifting accessories in accordance with the definitions laid out in this section.
- (f) Following terms and definitions are used in this COP:
  - (i) **'Lifting Operations'** refers to the operation of lifting or lowering a load using lifting equipment;
  - (ii) **'Lifting Equipment'** refers to any device used for lifting or lowering a load typically includes mobile cranes, tower cranes, gantry cranes, crawler cranes, hoist and elevating work platforms;
  - (iii) **'Load'** refers to any load being lifted or lowered by lifting equipment and typically includes materials, waste, plant, equipment and persons;



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- (iv) **'Common Lift'** refers to any routine or regular lifting operation that is carried out where the lifting equipment, lifting accessory and the load are the same in each case. An example of a common lift is the unloading of steel reinforcement from a delivery lorry at the same radius, using the same crane and lifting accessory;
- (v) **'Special Lift'** refers to any lifting operation which is carried out infrequently or as a 'one-off' on the site and there is change in either the lifting equipment used or the lifting accessory. An example of a special lift is the lifting of air conditioning plant onto the roof of a building which will only be carried out once and will require a detailed lifting assessment;
- (vi) **'Lifting Accessory'** refers to any accessory connected to lifting equipment used in connection with lifting or lowering a load, it includes chains, slings, shackles, wire ropes and any accessory that may be used to carry a load such as a concrete skip or man riding basket;
- (vii) **'Riggers / Signalers / Slingers'** refers to any employee connecting a load to lifting equipment or any employee providing directions to the operator of any lifting equipment; and
- (viii) **'Appointed Lifting Supervisor'** refers to a trained and competent person appointed by the client, stakeholder, consultant and contractor supervising lifting operation and using lifting equipment to undertake the duties detailed in Section 3.1.3
- (ix) **'Appointed Person'** refers to a trained and competent person appointed by the client, stakeholder, consultant and contractor using lifting equipment under the instruction of Appointed Lifting Supervisor.

## 2.0 TRAINING AND AWARENESS

- (a) Duty Holder shall ensure that OHSE training complies with the requirements of:
  - (i) *Dubai Aviation City Corporation (DACC) OHSERF - Regulations 6 – Competence, Training and Awareness.*
- (b) In accordance with *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 5 – Leadership, Roles, Responsibilities and Self-Regulations*, Duty Holder shall ensure employees required to implement the requirements of this COP are trained in lifting operations and in the use of lifting equipment and lifting accessories and understand the risks associated with using the equipment and the control measures put in place by the employer.
- (c) Duty Holder shall ensure all employees involved in lifting operations and using lifting equipment and lifting accessories are trained to recognize and respond to hazards associated with this type of work.
- (d) Duty Holder shall ensure that all employees who operate lifting equipment hold the appropriate licenses from the concerned authority within the UAE.
- (e) Duty Holder shall ensure that all employees operating lifting equipment are trained and approved specifically in the use of that type of equipment through an approved training
- (f) Provider approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department.



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- (g) Duty Holder shall ensure that all employees working as riggers / signalers / slingers are trained specifically in the use of that type of equipment through an approved training provider by Dubai Accreditation Centre (DAC) and Dubai South OHSE Department.
- (h) Duty Holder shall ensure an overall training program is planned for both employees and supervisors, and shall include, but not limited to the:
  - (i) General requirements to all employees on the safe working practices associated with lifting operations and use of lifting equipment and lifting accessories;
  - (ii) Clear detailed instruction for those working directly with lifting operation and use lifting equipment and lifting accessories; and
  - (iii) Details on the care and inspection of lifting equipment and lifting accessories.
- (i) Duty Holder shall maintain a record of the required training that contains the following information but are not limited to:
  - (i) Company name and company employee ID number;
  - (ii) Emirates ID number / Dubai South ID Pass;
  - (iii) Topic / subject of training;
  - (iv) Training provider
  - (v) Date of training; and
  - (vi) Person conducting the training

### 3.0 REQUIREMENTS

#### 3.1 Roles and Responsibilities

##### 3.1.1 Duty Holder

- (a) Duty Holder shall undertake their roles and responsibilities in accordance with the general requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 5 – Leadership, Roles, Responsibility and Self-Regulation*.
- (b) Duty Holder shall be responsible for performing a risk assessment in accordance with *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 2 – Risk Management* to determine the risks associated with the specific activity. Duty Holder shall include control measures and safe work practices with the advice from consultant or client representative to reduce employee's exposures that could cause an injury.
- (c) Duty Holder shall undertake their specific roles and responsibilities with regards to lifting operation, lifting equipment and lifting accessories by ensuring the following:
  - (i) Lifting plans are prepared and as regularly as necessary updated to reflect the type of lifting operations being carried out at the site;
  - (ii) Specific lifting plans are developed when special (complex) list are to be undertaken;
  - (iii) All employees undertaking lifting operations are trained and competent;
  - (iv) The place where lifting operations are undertaken safe;





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- (v) Where use of lifting equipment or lifting accessories provided by another supplier or subcontractor/equipment owner or other employer, they shall ensure that it is inspected and certified safe to use by a competent person / contractor approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department;
- (vi) Employees undertaking lifting operations have received appropriate medical screening and surveillance as required by *Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OPS.628WA - Safety and Health Requirements in Warehouse Operations*
- (vii) Shall ensure that lifting equipment used in operations is fit for purpose, appropriately maintained and serviceable, and that any associated risks in using the equipment are identified and mitigated or appropriately controlled.

### 3.1.2 Riggers / Signalers / Slingers

- (a) Rigger / Signaler / slinger shall undertake their specific roles and responsibilities with regards to lifting operation and the use of lifting equipment and lifting accessories by ensuring the following:
  - (i) Follow a safe system of work when lifting operations are being carried out;
  - (ii) Report any condition or situation to the Appointed Lifting Supervisor immediately that could affect lifting operations being undertaken safely;
  - (iii) Visually inspect lifting accessories prior to each use and immediately report any damage or suspicion of damage to the supervisor / engineer and Appointed Lifting Supervisor;
  - (iv) Not use any damaged or defected lifting equipment that are not safe to use; and
  - (v) Ensure that lifting accessories are used in accordance with lifting plan and their individual Safe Working Load (SWL) as per section 3.6 in this COP; and
  - (vi) Suspend immediately any lifting operation where there is a loss of and/or breakdown in communication with the operator of the lifting equipment and/or lifting accessories.

### 3.1.3 Appointed Lifting Supervisor

- (a) Appointed Lifting Supervisor shall undertake their specific roles and responsibilities with regards to the planning and supervision of lifting operation and the use of lifting equipment and lifting accessories by ensuring the following:
  - (i) Appropriate planning of all lifting operations;
  - (ii) That a lifting plan is prepared and regularly updated;
  - (iii) Provide advice and guidance to riggers/signalers/slingers and lifting equipment operators on the identified safe system of work;
  - (iv) Control measures for lifting operation are implemented and PTW are obtained;
  - (v) That a schedule of common lifts is developed detailing the means of lifting common loads on the site; and



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- (vi) Develop procedure to ensure that where special lifts are undertaken, arrangements are in place to ensure that lifting operations can be carried out safely.

### 3.1.4 Employees

- (a) Employees shall undertake their roles and responsibilities in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 5 - Leadership, Roles, Responsibility and Self-Regulation*.
- (b) Employees shall ensure they follow all the rules and regulation with regards to the use of lifting equipment and lifting accessories by ensuring the following:
  - (i) Following any training or certification provided for the use of lifting equipment;
  - (ii) Following information provided by the employer regarding general health and safety rules governing the use of lifting equipment and lifting accessories;
  - (iii) Reporting any damage or defect noted or suspected in any item of lifting equipment of lifting accessory;
  - (iv) Taking reasonable care to ensure that neither lifting equipment of lifting accessories are overloaded or used incorrectly;
  - (v) Reporting any unsafe practices that they may observe in relation to lifting operations; and
  - (vi) Observing exclusion zones provided by the employer where lifting operations are being carried out.

### 3.2 Requirements of Appointed Lifting Supervisor

- (a) Duty Holder shall ensure where any type of crane is being used for lifting operations an appropriately qualified competent person shall be appointed as 'Appointed Lifting Supervisor';
- (b) Qualifications for the Appointed Lifting Supervisor shall include consideration of the following:
  - (i) Previous experience in the use of similar type of crane(s);
  - (ii) Minimum 5 years' experience in working with lifting operations and lifting equipment;
  - (iii) Trained and competent rigger/signaler/slinger in possession of a certificate from an third party training provider approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department;
  - (iv) Previous experience operating cranes or managing lifting operations in a supervisory role; and
  - (v) Workplace / site specific induction and experience related directly to the actual lifting equipment in operation at that particular time.
- (c) Duty Holder shall ensure that the appointment of the 'Appointed Lifting Supervisor' shall be in writing and recorded as part of the lifting plan.

### 3.3 Suitable Lifting Plan Requirements

- (a) Duty Holder shall ensure that a lifting plan is prepared. The lifting plan shall be prepared by the Client or Contractor and shall be reviewed and approved by the consultant or Appointed Lifting



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Supervisor. The Appointed Lifting Supervisor shall assist the client/contractor in the preparation of the lifting plan. The lifting plan shall include information on the following:

- (i) Details of the person in overall charge of all lifting operations (Appointed Lifting Supervisor), including relevant experience of this person in planning lifting operations;
- (ii) List of responsibilities of those involved in lifting operations including, person in overall control, crane operator and rigger/signaler/slinger;
- (iii) An overview procedure detailing how lifting operation shall be planned, supervised, monitored and reviewed;
- (iv) Details of the crane(s) capacities at various radius, identification/registration number;
- (v) Diagrammatic sketch of the lift – including equipment and personnel placement, distances, maximum weight capacity, radius and other relevant measurements;
- (vi) Copies and register of all crane operator competency certificates issued by third party training provider approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department;
- (vii) Copies and a register of all riggers/signalers/slingers competency certificate issued by third party training provided approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department;
- (viii) Copies of all test and safe to use certificates for lifting equipment and accessories to be used issued by a third party contractor/person approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department;
- (ix) Schedule of common lifts to be undertaken by the crane detailing what is to be lifted, weight of load and how connection between the load and the crane shall be made;
- (x) A written procedure detailing how special lifts shall be planned to ensure they can be carried out safely;
- (xi) A written procedure detailing the planned maintenance requirements of each type of crane and the inspections and checks that shall be carried out; and
- (xii) Copies of all risk assessments undertaken for crane lifting operations.

### 3.4 Permit to Work

- (a) Duty Holder shall ensure that all lifting operations shall be undertaken with PTW system in accordance with *Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.09.WS - Permit to Work Systems*.

### 3.5 Planning and Assessment

#### 3.5.1 General Guidelines

- (a) Duty Holder 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;





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- (ii) Cranes, hoist, lifts, lifting appliances and gears, forklifts, etc. use in factories, warehouses, construction sites, hotels and other workplaces shall be tested and certified by competent person once every 12 months.
- (iii) That effective procedures and control measures are in place, which are implemented in order to manage activities safely and without risk to health;
- (iv) The management of lifting operations requirements are included in the Occupational Health, Safety and Environmental Plan (OHSE-Plan) for Operational Facilities approved by Dubai Aviation City Corporation (DACC) OHSE Department.
- (v) That associated safe systems of work, and site rules are included in the Occupational Health, Safety and Environment Plan (OHSE-Plan) for Operational Facilities Approved by Dubai Aviation City Corporation (DACC) OHSE Department.

### 3.5.2 Risk Assessment

- (a) Duty Holder shall ensure that prior to the undertaking of lifting operations; a risk assessment is conducted to ensure the selection or appropriate control measures. *Refer to Dubai Aviation City Corporation (DACC) OHSSRF – Regulation 2 – Risk Management* Risk assessments carried out for lifting operations involving cranes shall form part of the lifting plan and be reviewed and updated regularly.
- (b) Duty Holder shall ensure that risk assessments consider the following general hazards and risks associated with lifting operation and use of lifting equipment and lifting accessories which shall include, but not limited to:
  - (i) Competency requirements of operators / riggers;
  - (ii) Lifting equipment and accessories testing and certification requirements;
  - (iii) Unauthorized use of lifting equipment;
  - (iv) Failure of lifting equipment or lifting accessories;
  - (v) A load being dropped whilst suspended;
  - (vi) Unstable ground conditions;
  - (vii) Collision of lifting equipment where 2 or more devices are being used in close proximity to each other;
  - (viii) Lifting of people;
  - (ix) Communication;
  - (x) Visibility;
  - (xi) Fatigue;
  - (xii) Employees being struck by the load or lifting equipment;
  - (xiii) Striking overhead power cables or other services;
  - (xiv) Falls during the erection of cranes;
  - (xv) Manual handling risks associated with lifting and moving heavy equipment;
  - (xvi) Health risks from oils, solvents, greases and other hazardous materials; and
  - (xvii) Contact with moving machinery parts during maintenance.



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### 3.6 Lifting Equipment Selection

- (a) Duty Holder shall ensure that during the planning of lifting operations, consideration is given to the type of equipment that is required to carry out the lifting operation safely. The Appointed Lifting Supervisor shall be consulted during the selection process and the decision on the type of crane shall be based on the following factors:
  - (i) Weight of the load;
  - (ii) Frequency and duration of the work;
  - (iii) The working environment (ground conditions, access restrictions, etc.);
  - (iv) The presence of overhead power lines;
  - (v) Proximity of other structures, public access, buildings, etc.;
  - (vi) Mobility of the crane (will lifting operations be carried out in one place or several different locations); and
  - (vii) Lifting radius.
- (b) Duty Holder shall ensure that the selection of cranes is carried out following the principles of risk assessment selecting the best option for each lifting operation based on the above factors.

### 3.7 Safe Use of Lifting Equipment

#### 3.7.1 General Requirements

- (a) Duty Holder shall ensure that prior to lifting operations being carried out, the work shall be planned and the safe working method shall be identified and communicated to all employees in a comprehensible manner.
- (b) Duty Holder shall ensure that prior to any lifting operations being undertaken, a risk assessment is conducted to determine typical safe working conditions and safeguards, acceptability limit of each lift and the level of supervision required.
- (c) In the case where cranes are used for lifting operations, developer, client, stakeholder, consultant and contractor shall ensure that the lifting plan is followed and the correct means of lifting and the correct lifting accessories are used.
- (d) Duty Holder shall ensure that those employees working as lifting equipment operators and riggers are trained and competent and hold the relevant license(s) to undertake the type of work safely.
- (e) Duty Holder shall ensure that the area where lifting operations are being carried out is clearly defined and as far as reasonably practicable, access of unauthorized persons is prevented.

### 3.8 Safe Working Load (SWL)

- (a) Duty Holder shall ensure that the Safe Working Load (SWL) of every item of lifting equipment is known and clearly understood by lifting equipment operators and riggers. SWL shall be clearly marked on the lifting equipment in a prominent position;



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- (b) Duty Holder shall ensure that the SWL of every lifting accessory is clearly marked on the lifting accessory or on a metal tag fixed securely to the lifting accessory. Any lifting accessory without its SWL clearly marked on it shall be removed from service;
- (c) Duty Holder shall ensure that lifting equipment or lifting accessories are used in accordance with manufacturer or supplier specifications. As the angle between legs on slings and chains affects its capacity (SWL) employers shall ensure that lifting accessory safe angles of use are clearly understood by rigger/signaler/slinger.
- (d) Where it is known or suspected that the SWL of any lifting accessory has been exceeded, employers shall ensure that lifting accessory is removed from use until it has been thoroughly examined and certified by an third party person approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department.

### 3.9 Load Radius Indicators and Safe Load Indicators

- (a) Duty Holder shall ensure that all cranes with a variable radius are provided with a load radius indicator. The load radius indicator shall be clearly visible to the crane operator and show the operating radius and the corresponding safe working load.
- (b) Load radius indicators may be incorporated into safe load indicators of the type which display the safe working load;
- (c) Duty Holder shall ensure that every crane with a SWL of 1 ton or more is fitted with a safe load indicator which emits an audible warning when the crane approaches its safe working load.
- (d) Safe load indicators shall be clearly visible to the crane operator and calibrated to the specific requirements of the crane.
- (e) Duty Holder shall consider using safe load indicator that prevent a crane from exceeding its SWL by restricting the radius operation when the SWL is reached (often referred to as automatic safe load indicators).

### 3.10 Means of Communication

- (a) Duty Holder shall that there is an agreed and recognized means of communication between the operator of the lifting equipment and rigger. The agreed means of communication shall be documented in the lifting plan and followed by all those involved in lifting operations.
- (b) Where hand signals are used as the means of communication, the rigger / signaler shall be within easy viewing distance of the crane operator. Where there is no clear line of site between the rigger / signaler and the crane operator, radio communication shall be used. *Refer to Dubai Aviation City Corporation (DACC) COP – DACC.DS.PROJ.OHSE.CST.45.SS - Safety Signage and Signals.*
- (c) On tower cranes where the operators cab is more than 35 meters from the ground level, radio communication shall be the mandatory means of communication between the crane operator and rigger / signaler.



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- (d) Duty Holder shall provide clear instruction to all employees that only the trained / certified riggers/signalers are to communicate with the crane operator. Crane operators shall also be instructed not to accept signals from any person other than the appointed rigger/signaler.

### 3.11 Wind Speed

- (a) Duty Holder shall ensure that an anemometer is available on each worksite, where cranes are used to measure wind speed. This shall be fitted to the highest point of the crane where reasonably practicable. Handheld anemometers shall only be used as a secondary means of measuring wind speed at ground level.
- (b) Duty Holder shall ensure that provisions are in place to determine wind direction.
- (c) Duty Holder shall ensure that the manufacturer or supplier specifications are available for each crane and that the wind-off speed of each crane is communicated to the crane operator and appointed lifting supervisor and team members/work party.
- (d) Duty Holder shall regularly obtain meteorological reports for the area where cranes are being used for lifting operations.
- (e) In all cases, Duty Holder contractor shall ensure that lifting operations cease when the recorded wind speed reaches or gusts in excess of 38 km/h (20.5) knots.

### 3.12 Lifting Operation

- (a) Duty Holder shall ensure that lifting accessories are attached to the load only by a trained and competent rigger/slinger holding a certificate from training provider approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department.
- (b) Routes of suspended loads shall be pre-planned to ensure that no employee is required to pass or work directly below suspended load, unless there is a protective shield above them.
- (c) Duty Holder shall ensure that slinging techniques take into account the following:
  - (i) Where lifting chains are used on metal (e.g. steel reinforcement bars or steel beams), the competent rigger / slinger shall ensure that they are protected (e.g. double wrapped and timber bites or packers);
  - (ii) Cradle lifting shall be prohibited;
  - (iii) Lifting of different size of steels shall be avoided unless they are all tied in one bundle to prevent slipping out.
  - (iv) Lifting accessories shall be used in accordance with the SWL stamped on the lifting accessory or the metal tag secured to the lifting accessory;
  - (v) Tag lines shall be used to control movement of the suspended loads during lifting operations. Tag lines shall be properly attached to the load to prevent slippage and displacement; and
  - (vi) Prior to the load being moved into position by the crane the rigger/slinger shall raise the load slightly off its resting level and check that the lifting accessory is secure on the load.
- (d) Duty Holder shall ensure that all lifting operations are carried out in accordance with the lifting plan.



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- (e) Duty Holder shall ensure that no loose materials or tools (e.g. bolts, nuts, screws, hand tools, etc.) shall be placed on top of any lifted box / materials.
- (f) Duty Holder shall ensure that as far as reasonably practicable, loads shall not be lifted over employees or others working on the site. Loads shall never lift over members of the general public.

### 3.13 Collision of Crane / Other Lifting Equipment's

- (a) Duty Holder shall ensure that where two or more pieces of lifting equipment are used within the same radius, measures are taken to prevent collision. The lifting plan shall set out the working procedures and all operators and riggers shall be briefed on the specific arrangements.
- (b) For tower cranes working within the same radius, Duty Holder shall consider the use of an appropriate electronic anti-collision device.
- (c) Where the tower cranes are working within the same radius, Duty Holder shall ensure that an agreed means of radio communication is provided in the cab of each crane. This radio is to be used in case of emergency only (collision).

### 3.14 Crane Type and its Requirements

#### 3.14.1 Tower Cranes

- (a) Duty Holder shall ensure the following with regards to the erection and use of tower cranes:
  - (i) Prior to tower crane erection, No Objection Certificate shall be obtained from **Dubai Civil Aviation Authority (DCAA)**;
  - (ii) Crane bases shall be checked and signed off by a competent person before the erection of crane mast sections commences;
  - (iii) Only competent tower crane erectors are to be employed in the erection of tower cranes;
  - (iv) All electrical connections to the tower crane shall be made by a competent electrician in accordance with **Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.02.ES – Electrical Safety at Work**;
  - (v) All tower cranes shall be provided with static aviation light in accordance with the requirements of **Dubai Civil Aviation Authority (DCAA)**;
  - (vi) All electrical cables feeding the tower crane distribution board shall be steel wire armored protected;
  - (vii) Tower crane erectors shall wear safety harnesses and clip on when working at height, in accordance with **Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.16.WH – Work at Heights**, during the erection of tower cranes;
  - (viii) A safe means of access to the crane cabin shall be provided by using a permanent steel ladder fitted with proper cage for fall protection;
  - (ix) Rest platform shall be provided throughout the mast at a frequency of at least every 9 meters. Rest platforms shall be provided with appropriate edge protection in accordance with **Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.16.WH – Work at Heights**,





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- (x) All erection components such as temporary platforms shall be removed from the crane by the crane erector prior to handover in accordance with the manufacturer's instructions;
  - (xi) All tower cranes shall be provided with lightening protection systems;
  - (xii) A hand over certificate shall be provided by the tower crane erector when the erection work is completed;
  - (xiii) Prior to use and after the issuance of hand over certificate from the crane erector, a full test of the crane shall be undertaken and certified safe to use by a third party person approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department;
  - (xiv) The crane manufacturer's erection and operating manual shall be available on site;
  - (xv) Where an anemometer is fitted to a tower crane a repeater shall be fitted at the base of the crane or in the project site office;
  - (xvi) Tower cranes cabin for operator shall have its windows free of broken or cracked glass or any other means of obstructions for clear vision. Window glass shall be of Shutter-proof type and shall be kept clean;
  - (xvii) Where the tower crane is adjusted of height, a new safety certificate must be issued from a third party approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department;
  - (xviii) Where self-climbing tower cranes are used, the climbing section shall be lowered after use in accordance with the manufacture's manual;
  - (xix) In the case of tower cranes mounted on rail track, in addition to the requirements provided above, additional requirements are listed below:
    - 1. Consultant's approval required prior erection;
    - 2. The rails shall be adequately supported on a surface sufficiently firm to prevent undue movement or displacement of the rails;
    - 3. Shall be provided with adequate stops or buffers at each end of the track;
    - 4. The cranes shall be provided with effective brakes on travelling motion;
    - 5. Shall be fitted with an audible and visible travel alarm to warn workers on site; and
    - 6. Every travelling cranes on rails shall be provided with guards to remove from the rails any loose material likely to cause danger.
  - (xx) In the case of tower cranes supported by the building structure, in addition to the requirements provided above, additional requirements are listed below:
    - 1. Consultants approval required prior erection;
    - 2. The cranes shall be connected to 3 slabs at least;
    - 3. The slabs will considers ready only after reaching its 28 days strengthen; and
    - 4. For tension slabs, the cranes will connected to those slab complete 28 days strengthen and after getting the engineer written approval.

### 3.14.2 Truck Mounted Mobile Cranes



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- (a) Duty Holder shall ensure the following with regards to the setting up and use of truck mounted mobile cranes:
- (i) Truck mounted mobile cranes are to be set up on ground that is level, stable and firmed/compacted;
  - (ii) Where truck mounted mobile cranes are to be set up near excavations, culverts, made-up-ground or close-by to building foundations, a competent engineer shall be consulted for advice on crane location and control measures to be taken;
  - (iii) Outrigger and base plates shall always be used with truck mounted mobile cranes in accordance with the manufacturers operating manual;
  - (iv) Outrigger pads or other support shall be of adequate strength and size to support the stability of crane;
  - (v) The around the truck mounted mobile crane shall be set up as an exclusion zone for all unnecessary personnel.
  - (vi) Control measures implemented to eliminate the risk of crushing persons between the counter weight and any other surface during slewing operations;
  - (vii) Truck mounted mobile cranes shall never be used free-on-wheels to move loads around the site unless specifically permitted and detailed in the manufacturer's operating manual;
  - (viii) When left unattended truck mounted mobile cranes shall be switched off and the key shall be removed from the ignition to isolate the crane;
  - (ix) Where truck mounted mobile crane with boom length more than 30 meters high, it shall be provided with static aviation light in accordance with the requirements of **Dubai Civil Aviation Authority (DCAA)**;
  - (x) Safe access for the ruck mounted mobile crane operator shall be provided and the area around where the crane is used shall be kept clear of obstruction; and
  - (xi) Windows and windscreen shall be maintained in good condition. If glass is broken, the crane shall be taken out of service until repaired.

### 3.14.3 Crawler Cranes

- (a) Duty Holder shall ensure the following with regards to the setting up and use of crawler cranes:
- (i) Whilst crawler cranes are tracking, the jib shall be reduced to the minimum radius;
  - (ii) Where work on the jib is carried out such as adding or removing sections and the jib is laid flat in the horizontal position, it shall be appropriately supported with props to prevent collapse;
  - (iii) Crawler crane tracks shall be regularly maintained in accordance with the manufacturer's operating manual; and
  - (iv) Barriers and warning signs shall be set up around crawler cranes to prevent personnel accessing areas where lifting operations are being carried out.



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Note: It is strictly prohibited to use any crane exceeded 25 years of service unless a safety and quality certificate is issued from the manufacturing company and Non-Destructive Test for all structure.

An obstructed passageway not less than 600 mm wide shall be maintained between moving and rotating structures of the crane and any guard-rails, fencing or other nearby fixture to protect the rigger/signaler from being injured. Provided that if any time it is impracticable to maintain such a passageway at any or point, all reasonable steps shall be taken to prevent access of any person to such place or point.

### 3.15 Materials and Passenger Hoist

#### 3.15.1 Mast Climber, Cradle Hoist and Platform Hoist

- (a) Duty Holder shall plan the use of material and/or passenger hoist on site and ensure that material and/or passenger hoist are appropriate for purpose and erected or installed in accordance with the manufacturers/suppliers recommendations.
- (b) Duty Holder shall ensure that all persons involved with erecting hoists shall be competent and experienced in carrying out the work.
- (c) Where working at height is carried out by those erecting hoist and using the hoist, Duty Holder shall ensure that the requirements of *Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.16.WH - Work at Heights*, are complied with.
- (d) Prior to the material and/or passenger hoist being used for the first time, Duty Holder shall ensure that a handover certificate is provided by the hoist installer and a thorough examination and test of material and/or passenger hoist is carried out by a third party engineer approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department.
- (e) Duty Holder shall ensure the following:
  - (i) Hoist must be fitted with an emergency brake to stop the fully loaded platform or cage in the event of failure of failure of the hoist rope or driving gear. The hoist must be stopped fully in line with the manufacturers recommendations;
  - (ii) Mast climber mast sections are tied to the structure in accordance with the manufacturers/suppliers recommendations;
  - (iii) Safety devices are provided to prevent the over-run of the hoist at the top of the of the mast section;
  - (iv) The mast climber base is securely fenced to prevent persons being struck by the descending hoist;
  - (v) A warning notice shall be posted on the hoist gates requesting that these gates to remain closed; and safety signs of conspicuous and easily read in Arabic, English and the most common language on site);
  - (vi) Mast climber gates shall be provided with electrical or mechanical locking devices so that gates cannot be opened except when the cage is at the landing stage and that the hoist cannot be operated unless that gate is closed and lock is in the shut position;



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- (vii) Material mast climber are used only for the carriage of materials, it is strictly prohibited to carry persons on a mast climber designed only for material use;
- (viii) Mast climber landing points shall be provided with interlocking gates fitted at each level;
- (ix) The SWL of each mast climber shall be clearly marked on the mast climber and communicated to the hoist operator;
- (x) The speed limit of the hoist of single speed shall not exceed 0.5 meter/second in the under construction buildings. Hoist with two speeds the lower speed shall not exceed 0.25 meter/second, in case it is needed to increase the speed more than these limits, special approval must be obtained from the specialized department;
- (xi) Material and/or passenger hoist operator shall be trained on safe working and emergency procedure for the hoist they are operating;
- (xii) The hatch in the roof of a passenger hoist shall be kept closed and where be fitted with an interlock to prevent the hoist being used with the hatch in the open position;
- (xiii) Exclusion zone shall be provided underneath while operating cradle hoist to prevent entry of person underneath the suspended hoist;
- (xiv) In the case of cradle hoist, vertical lifeline shall be provided to be used as an anchorage for the safety harness or as per recommendation of manufacturers/suppliers whilst on the cradle hoist operation;
- (xv) Passenger hoist shall be thoroughly examined and tested every six months in accordance with Section 3.11 of this COP;
- (xvi) Under no circumstances shall materials be allowed to protrude through the open hatch in the roof of passenger and/or material hoists;
- (xvii) Access to hoist from building / structure shall be closed and can only opened by the hoist operator;
- (xviii) Passenger hoist cages / operators shall be provided with proper means of communication to be used in case of emergency or in case the hoist stops for any reason; and
- (xix) Adequate illumination shall be provided inside the cage, outside the cage and at all entrances and exits at all levels.

### 3.15.2 Other Lifting Equipment

- (a) Duty Holder shall ensure that any other equipment used for lifting such as chain block, electric chain hoist, winches are used in accordance with this COP. In particulars they shall ensure:
  - (i) That all lifting equipment operators are competent and certified by third party training provider approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department to operate and use lifting equipment and understand the safe working load requirements and safe operating procedures;
  - (ii) Correct selection and suitability of other lifting equipment; and
  - (iii) Lifting equipment shall be subject to thorough examination and testing requirements.

Note: Duty Holder shall ensure that a detailed risk assessment is prepared for the use of lifting equipment which shall include identification of the hazards associated with using the lifting equipment and the procedure to be taken in the event of an emergency situation.



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### 3.16 Emergency Preparedness / Procedures

- (a) Duty Holder shall develop emergency plans that take account of all creditable emergency scenarios that could arise from lifting operations, in compliance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 13 – Emergency Management*.
- (b) Duty Holder shall, as a minimum, consider the following scenarios when planning emergency procedures:
  - (i) Recovery of a collapsed crane operator or erector from a tower crane;
  - (ii) Employee becoming suspended by their safety harness following a fall during the erection or maintenance of a tower crane;
  - (iii) Overturning of a crane / lifting equipment whilst lifting;
  - (iv) Load being snagged during lifting operations;
  - (v) Security of the load being compromised during lifting operations;
  - (vi) Entrapment of person inside hoist cage;
  - (vii) Fall of hoist cage;
  - (viii) Any other foreseeable emergency situation that may occur.

### 3.17 Examination, Testing, Inspection and Tagging

- (a) Duty Holder shall accordance with *UAE Ministerial Order No. (32) 1982 Article (20)* that employers shall ensure all lifting equipment is thoroughly examined and tested at least every 12 months.
- (b) Duty Holder shall ensure that only third party testing provider / engineers approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department are used to thoroughly examine and test lifting equipment and thoroughly examine lifting accessories.
- (c) Duty Holder shall ensure that in case where lifting equipment is used for lifting persons it shall be thoroughly examined and tested at least every 6 months.
- (d) Duty Holder shall ensure that in the case of cranes with a variable radius, a maximum SWL test is carried out at least once in every 4 years in line with the manufacturer's instructions.
- (e) Duty Holder shall ensure that cranes and hoist are thoroughly examined, tested and certified safe by third party engineer approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department before their operations after being erected or installed in a new location or after modification is made to any structural component.
- (f) Duty Holder shall ensure that lifting accessories are thoroughly examined and certified safe by a third party engineer approved by Dubai Accreditation Centre (DAC) and Dubai Aviation City Corporation (DACC) OHSE Department at least every 6 months.
- (g) Duty Holder shall ensure that lifting equipment and lifting accessories daily inspection conducted by operator in a daily based prior to start any lifting operation. Inspection shall include but not limited to:





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- (i) Daily visual inspection of lifting equipment carried out by the lifting equipment operator using daily inspection checklist and in accordance with the manufacturer's recommendation;
- (ii) Daily visual inspection of lifting accessories carried out by the rigger/slinger or the lifting equipment operator in accordance with manufacturer's recommendations;
- (h) Duty Holder shall ensure that monthly inspection and tagging are conducted by the certified technician in a monthly based and in accordance to the requirements of *Dubai Aviation City Corporation (DACC) COP – DACC.DS.PROJ.OHSE.CST.23.IT - Inspection, Testing and Tagging*.
- (i) Duty Holder shall ensure that inspection record and register for all lifting equipment and lifting accessories shall be kept in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 8 – Document Control and Record Management*.

### 3.18 Lifting Equipment and Lifting Accessories Maintenance Requirements

- (a) Duty Holder shall ensure the following in order to reduce the risks associated with wear and tear:
  - (i) A planned and preventive maintenance program is developed for lifting equipment and lifting accessories based on the manufacturer's recommendations; and
  - (ii) The maintenance schedule is reviewed frequently based on maintenance and failure findings.

## 4.0 RECORD KEEPING

- (a) Duty Holder shall maintain records in accordance with *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 8 – Document Control and Record Management* and *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 14– Performance Management*.
- (b) Appropriate records for the following activities shall be maintained by the contractors:
  - (i) Licenses and third party certification of operators and third party certification of riggers/signalers/slingers;
  - (ii) Lifting equipment and accessories third party testing and certification;
  - (iii) Records of repairs / servicing / maintenance; and
  - (iv) Daily and monthly inspection records;
  - (v) Lifting equipment and accessories registers; and
  - (vi) Permit to work for lifting and registers.

## 5.0 REFERENCES

NO.	DOCUMENT NAME	DOCUMENT NO.
1	Risk Management	DACC OHSERF – Regulation 2
2	Leadership, Roles, Responsibilities and Self-Regulations	DACC OHSERF – Regulation 5



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3	Competence, Training and Awareness	DACC OHSERF – Regulation 6
4	Document Control and Record Management	DACC OHSERF – Regulation 8
5	Emergency Management	DACC OHSERF – Regulation 13
6	Performance Management	DACC OHSERF – Regulation 14
8	OHSSE Management for Construction Work	COP – DACC.DS.PROJ.OHSE.CST.02.CW
9	Occupational Health Screening and Medical Surveillance	COP – DACC.DS.PROJ.OHSE.WRH.04.HM
10	Barricading of Hazards	COP – DACC.DS.PROJ.OHSE.CST.08.HN
11	Electrical Safety at Work	COP – DACC.DS.OPS.OHSE.OST.02.ES
12	Inspection, Testing and Tagging	COP – DACC.DS.PROJ.OHSE.CST.23.IT
13	Permit to Work Systems	COP – DACC.DS.OPS.OHSE.OST.09.WS
14	Safety Signage and Signals	COP – DACC.DS.PROJ.OHSE.CST.45.SS
15	Work at Heights	COP – DACC.DS.OPS.OHSE.OST.16.WH
16	Dubai Municipality Code of Construction Safety Practice	2011
17	Occupational Health and Safety of Abu Dhabi	2016
18	UAE Ministerial Order No. (32) 1982 Article (20)	1982
19	Dubai Civil Aviation Authority	NOC for Crane Requirements and Static Aviation Light