



# DUBAI AVIATION CITY CORPORATION OHSE CODE OF PRACTICES



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DACC CODE OF PRACTICE - ELECTRICAL SAFETY AT WORK



**ELECTRICAL SAFETY AT WORK**  
DACC (DUBAI SOUTH) Code of Practice  
Document Reference No.: DACC.DS.OPS.OHSE.OST.02.ES

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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 within 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 electricity are identified, assessed and that control measures are implemented to prevent injury, illness and disease to persons who might be exposed to risk arising from those activities.
- (e) Licensed/Approved contractor refers to a company, which has been assessed and approved by Dubai Electricity and Water Authority (DEWA) Regulation for Electrical Installation 2017 Edition as a competent company to work on Electrical Installation.
- (f) 'Individual Licenses' refers to a written demonstration of attained competency of a person approved and certified by DEWA.
- (g) 'Danger' as used in this COP means risk of injury, damaged to plant, equipment or materials.
- (h) 'Injury' as used in this COP means death or personal Injury from electric shock, electric burn, electrical explosion or arcing, or from fire or explosion initiated by electrical energy, where any such death or Injury is associated with the generation, provision, transmission, transformation, rectification, conversion, conduction, distribution, control, storage, measurement or use of electrical energy.
- (i) 'System' as used in this COP means an Electrical System in which all the Electrical Equipment is, or may be, electrically connected to a common source of electrical energy and includes such source and such equipment.



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- (j) 'Safe System of Work' as used in this COP means a set of documented management and operational processes and procedures which are based on identified hazards and are designed as far as reasonably practicable, to prevent danger.
- (k) 'Vicinity' work as used in this COP means any work activities which may impact or be impacted by an Electrical System where such works are being conducted in close proximity to such a System.
- (l) Electrical Supply Safety requirements related to specific equipment types such as Overhead Lines, Underground cables, sub-stations, etc. are contained in procedures and practices of competent authority (DEWA) and in coordination with Dubai South applicable department and shall be in conjunction with this COP.
- (m) Duty holders are responsible for activities undertaken within their facility. Electrical Contractor is mainly responsible for ensuring the compliance of this COP.

## 2.0 COMPETENCE, 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) Duty holder shall ensure that no person is engaged in any work activity on or in the vicinity of electrical systems unless such person has the competency gained from training, technical knowledge and experience of the precautions to be taken against the risk of death or personal injury, and is under such degree of supervision as may be appropriate having regard to the nature of the work. Such competency will be assessed and awarded based on a licensing scheme.
- (c) Duty holder shall ensure that employees required to implement the requirements of this COP are demonstrated to have the required competency to work on or in the vicinity of electrical systems and structures in question and understand the risks associated with such activities and the required control measures put in place by the contractor and shall be in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 5 – Leadership, Roles, Responsibilities and Self-Regulations.*
- (d) Duty holder shall ensure that a competency assurance process is implemented for all working on or in the vicinity of electrical systems, and that the required competency levels are identified by documented Training Needs Analysis.
- (e) Training for employees shall be competency-based and include:
  - (i) Hazards and risks associated with electrical systems and task;
  - (ii) Information on the safe system of work identified in the risk assessment including permit to work system;



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- (iii) Specific control measures to be followed by those involved working with any electrical circuit or system;
  - (iv) Specific control measures to be followed for the circuit or system to be worked on;
  - (v) Reporting procedure in the event of incidents involving electrical systems; and
  - (vi) Fire-fighting for electrical fire where only Dry chemical powder and CO2 extinguishers shall be used. Extinguishers containing water shall not be used in electrical fires which occur in electrical equipment or conductors.
- (f) Duty holder shall maintain a record of required training and attained competency with respect to electrical safety for all persons working on or in the vicinity of electrical systems.
- (g) Individual electrical safety competency levels shall be verified regularly by the duty holders and ongoing competency shall be assessed. Where necessary, additional training and re-assessment shall be provided. Individual Licenses shall be issued as a demonstration of attained competency.
- (h) Duty holder shall ensure that a record of the required training contains the following:
- (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

- (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 ensure that all electrical wiring and installations are conform to the provisions and requirements of Dubai Electricity and Water Authority (DEWA).
- (c) Duty holder shall be responsible for performing a risk assessment in accordance with *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 2 – Risk Management* to identify all the hazards that may be present and the risks associated from working on electrical or in the vicinity of electrical systems. Duty holder shall develop safe systems of work including control measures and safety rules to reduce employee's exposures that could cause an injury and to prevent property damage.





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- (d) Duty holder shall ensure that developed safe systems of work including control measures and safety rules are implemented for all work activities involving Electrical Works to reduce the identified risk to acceptable levels.
- (e) Duty holder shall ensure that only qualified persons are authorized to works on electrical or in the vicinity of electrical systems provided with adequate and necessary personal protective equipment.
- (f) Duty holder shall ensure Emergency Response Plans are developed, implemented and regularly tested which address specific risks involved in Electrical Works and the control measures required to manage these risks. Emergency Management shall be in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 13 – Emergency Management*.

### 3.1.1 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 not work on electrical or in the vicinity of electrical systems unless they have the required competency and qualification and are individually authorized by the developer, client, stakeholder, consultant and contractor to do so.
- (c) Employees shall cooperate with the employer to enable any duty placed on that developer, client, stakeholder, consultant and contractor by the provision of this COP to be complied with.
- (d) Employees shall ensure that they follow all the rules and regulation with regards to work on electrical or in the vicinity of electrical system set by this COP and by the employer including the proper use of personal protective equipment provided to them.
- (e) Employees working on or near electrical circuits shall not wear trinkets, rings, watches and jewelries.

### 3.2 Planning and assessment

#### 3.2.1 Planning

- (a) Duty holder shall ensure the following:
  - (i) Duty holder shall assess the risk arising from electrical circuits and systems using risk management practices in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 2 – Risk Management*;
  - (ii) An assessment of the various risks is undertaken and system of work and safety rules are established for all work on electrical or in the vicinity of electrical systems based on the result of documented risk assessment for all work activities which are safe to all parties involved, other employees or affected including the public;
  - (iii) That effective procedures and control measures are in place in accordance with the requirements of *Dubai Aviation City Corporation (DACC) COP –*



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**DACC.DS.OPS.OHSE.OST.09.WS - Permit to Work Systems**, which are implemented in order to manage the work with electrical or in vicinity of electrical system safely and without risk to employees and properties;

- (iv) That control measures identified shall include provisions for personal protective equipment in accordance with the requirements of **Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.10.PP - Personal Protective Equipment** and the use of 'electrical danger' warning signs as and when required;
- (v) That all foreseeable emergency situations are identified and appropriate emergency procedures developed to manage these situations;
- (vi) That for the management of electrical safety requirements are included in the OHSE Plan and in accordance with **Dubai Aviation City Corporation (DACC) OHSERF – Regulation 5 - Leadership, Roles, Responsibilities and Self-Regulation**; and
- (vii) That associated safe systems of work and site rules are included in the Occupational Health, Safety and Environment Plan (OHSE-Plan) in accordance with **Dubai Aviation City Corporation (DACC) OHSERF – Regulatory Framework – DACC.DS.OHSE.RF.CORP.01**
- (viii) Appoint competent person to undertake the specific roles and responsibilities with regards to the planning and supervision of electrical work or work near electrical system. Appointment of competent person shall be in accordance with the requirements of **Dubai Aviation City Corporation (DACC) OHSERF - Regulation 5- Leadership, Roles, Responsibilities and Self-Regulation**.

### 3.2.2 Site Assessment

- (a) Duty holder shall ensure that prior any electrical work is carried out, the appointed competent person assesses the work requirements for the area and the affecting areas.
- (b) Following the assessment, the appointed competent person may need to prepare documented Safe Systems of Work (e.g. permit to work system, insulation, training, etc.).

### 3.2.3 Safe System of Work

- (a) Duty holder shall ensure that an electrical work risk assessment and applicable control measures are undertaking through the completion of the documented Safe System of Work.
- (b) Duty holder shall ensure that where required by the risks involved with the working on electrical or on vicinity of electrical system, a permit to work system is implemented that complies with the requirements of **Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.09.WS - Permit to Work System**.
- (c) Duty holder shall ensure the documented safe system of work are designed to ensure that:
  - (i) Work with electrical or vicinity of electrical system are systematically planned; and
  - (ii) Appropriate work methods and procedures are in place.



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- (d) That documented Safe System of Work is reviewed and approved by a competent person prior implementation.
- (e) Prior to work commencement, pre-task briefing shall be conducted by the supervisor to his workforce discussing the Safe System of Work, PPE to be used and the Emergency Procedure in accordance with the requirements of *Dubai Aviation City Corporation (DACC) COP – DACC-DS.OPS.OHSE.OST.03.EP – Emergency Preparedness; Dubai Aviation City Corporation (DACC) OHSERF - Regulation 5 - Leadership, Roles, Responsibilities and Self-Regulation; Dubai Aviation City Corporation (DACC) OHSERF - Regulation 6 – Competence, Training And Awareness; Dubai Aviation City Corporation (DACC) OHSERF - Regulation 3 – Emergency Management.*

### 3.3 Activities and protective equipment with electrical system

- (a) Duty holder shall ensure:
  - (i) That all electrical systems and circuits shall at all times be designed, constructed, operated, inspected, tested and maintained in accordance with applicable local and international standards to prevent so far as reasonably practicable, Danger.
  - (ii) That every work activity, including operation, use and maintenance of an electrical system or on vicinity of electrical system shall be carried out in a safe manner and not to give rise so far as is reasonably practicable, to Danger.
  - (iii) That specific precautions are implemented for electrical work in known or potentially explosive environments. These shall include as a minimum:
    - 1 Only electrical and non-electrical equipment and installations designed for such service are used (Ex-rated);
    - 2 Equipment is specifically identified, assessed and marked as suitable in accordance with international standards, such as ATEX;
    - 3 Equipment is maintained in accordance with international standards to ensure its continued suitability and certification.
    - 4 Gas monitoring shall be deployed before and during works to detect the presence of potentially explosive atmosphere;
    - 5 Appropriate emergency response provisions are identified and implemented throughout the duration of the work; and
    - 6 Only approved explosion proof electrical lighting shall be the only means used for artificial illumination in areas where flammable liquids or gasses are present and creating potential explosion hazards.
  - (iv) Any equipment provided under this COP for the purpose of protecting persons at work on or near electrical equipment shall be appropriate for the use for which it is provided, be maintained in a condition appropriate for that use, and be appropriately used.
  - (v) No electrical equipment/circuits shall be put into use where its strength and capability may be exceeded (overloaded) in such a way as may give rise to Danger.





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- (vi) Means shall be provided to disconnect all conductors in a building or other structures from the service entrance conductors. The service disconnecting means shall clearly indicate whether it is in the open or closed position and shall be installed at a readily accessible location nearest the point of entrance of the service entrance conductors:
- 1 Conductors and equipment shall be protected from over-current in accordance with their ability to safely conduct current;
  - 2 Over-current devices such as circuit breakers or fuses shall be available and readily accessible. These over-current devices shall not be located where they will be exposed to physical damage or in the vicinity of easily ignitable material; and
  - 3 Each protective device shall be capable of detecting and interrupting all values of current that can occur at its location in excess of its trip setting or melting point.
- (vii) Motors, equipment and appliances shall have a disconnecting means installed. The service disconnecting means shall plainly indicate whether it is in the open or closed position, and shall be capable of being locked in the off position.
- (viii) Each disconnecting means shall be legibly marked to indicate its purpose, unless located and arranged so the purpose is evident.
- (ix) This requirement shall not apply to equipment connected by means of flexible cord and plug.
- (x) Each service, feeder and branch circuit at its disconnecting means or over-current device shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident.
- (xi) Emergency power generators shall be equipped with a transfer switched or other appropriate control measures to ensure that power is not back fed to the utility supplying power to the circuit when the generator is in operation.
- (xii) Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed damage, shall be regularly inspected for external defects, such as deformed or missing pins, damage to the plug and insulation, and for indications of reasonably foreseeable internal damage. Equipment found damaged or defective shall not be used until repaired.
- (xiii) Insertion of bare conductors into receptacles or wires is prohibited.
- (xiv) Electrical wires are not passed through doors or windows and are kept away from the heating sources such as heaters and are not hung from nails to prevent wearing of the insulating materials. Electrical wires are not hung in erected scaffold connected directly to scaffold pipe and are not tied with steel wires.
- (xv) Safety equipment shall be determined using the following considerations:
- 1 Exposed conductors, joints, connections and other electrical equipment located so as to present a potential hazard to employees or others shall be insulated;
  - 2 No conductors or equipment shall be located in damp or wet locations; where exposed to gases, fumes, vapors, liquids or other agents that have a deteriorating effect on the conductors or equipment; or where exposed to excessive temperatures; unless of such construction or as necessary protected as to prevent, so far as is reasonably practicable, Danger arising from such exposure;



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- 3 Unused openings in boxes, raceways, cabinets, equipment cases or housings shall be effectively closed to afford protection substantially equivalent to the wall of the equipment;
- 4 Internal parts of electrical equipment, including bus bars, writing terminals, insulators and other surfaces may not be damaged or contaminated by foreign materials such as paint, plaster, cleaners, abrasives or corrosive residues;
- 5 There shall be no damaged parts that may adversely affect safe operation or mechanical strength of the equipment such as parts that are broken, bent, cut or deteriorated by corrosion, chemical action or overheating;
- 6 Conductors shall be spliced or joined with splicing devices identified for the use or by brazing, welding or soldering with a fusible metal or alloy. Soldered splices shall first be spliced or joined to be mechanically and electrically secure without solder. All splices and joints and the free ends of conductors shall be covered with an insulation equivalent to that of the conductors or with an insulating device identified for the purpose; and
- 7 Parts of electrical equipment that in ordinary operation produce arcs, sparks, flames or molten metal shall be enclosed or separated and isolated from all combustible material.

### 3.4 Protection, insulation and placing of conductors

- (a) Duty holder shall ensure that all Conductors in a System which may give rise to Danger shall either:
  - (i) Be suitably covered with insulating material and as necessary protected so as to prevent so far as reasonably practicable, **Danger**; or
  - (ii) Have such precautions taken in respect of them including, where appropriate their being suitably placed as will prevent so far as reasonably practicable, **Danger**.

### 3.5 Appropriate precaution

- (a) Duty holder shall ensure that:
  - (i) Precautions shall be taken, either by earthing or by other appropriate means to prevent Danger arising when any Conductor other than a Circuit Conductor which may reasonably foreseeably become charged as a result of either the use of a System or a fault in a System becomes so charged; and for the purposes of ensuring compliance with this COP, a Conductor shall be regarded as earthed when it is connected to the general mass of earth by Conductors of appropriate strength and current-carrying capability to discharge electrical energy to earth.
  - (ii) All non-current carrying metal parts of portable equipment and fixed equipment including their associated housings, enclosures and supporting structures shall be earthed.
  - (iii) The path to earth from circuits, equipment and enclosures shall be permanent, continuous and effective.
  - (iv) The circuit wiring shall include or provide an equipment earthing conductor to which the earthing contacts of the receptacle or cord connector shall be connected.



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- (v) The earthing contacts of receptacles and cord connectors shall be grounded by connection to the equipment earthing conductor of the circuit supplying the receptacle or cord connector.
- (vi) A conductor used as an earthing conductor shall be identifiable and distinguishable from all other conductors.
- (vii) No earthing conductor may be attached to any terminal or lead so as to reverse designated polarity.
- (viii) Earthing conductors shall be inspected regularly.

### 3.6 Referenced conductors integrity

- (a) Duty holder shall ensure that if a Circuit Conductor is connected to earth or to any other reference point, nothing which might reasonably be expected to give rise to Danger by breaking the electrical continuity or introducing high impedance shall be placed in that Conductor unless appropriate control measures are implemented to prevent Danger.

### 3.7 Connections

- (a) Duty holder shall ensure that every joint and connection in an electrical system shall be mechanically and electrically appropriate for use.
- (b) No electrical cord shall be reconnected and protected using insulation tapes.

### 3.8 Excess current means for protecting

- (a) Duty holders shall ensure that “Means for Protecting” from “Excess Current” shall be determined through risk assessment, shall be appropriately located and provided for protecting from excess of current in every part of an electrical system as may be necessary to prevent Danger.

### 3.9 Means for cutting-off the supply and isolation

- (a) Duty holder shall ensure that:
  - (i) Live parts to which an employee may be exposed shall be de-energized before the employee works on or near them.
  - (ii) Where necessary to prevent **Danger**, appropriate control measures including methods of identifying circuits shall be available for:
    - 1 Cutting off the supply of electrical energy to any electrical equipment;
    - 2 The isolation of any electrical equipment; and
    - 3 The proving of electrical equipment as isolated prior to commencement of work.
  - (iii) In section 3.0 “isolation” means the disconnection and separation of the Electrical Equipment from every source of electrical energy in such a way that this disconnection and separation is secure.



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- (iv) Section 3.0 shall not apply to Electrical Equipment which is itself a source of electrical energy but in such a case as is necessary, precautions shall be taken to prevent so far as is reasonably practicable, **Danger**.
- (v) If the exposed live parts are not de-energized (e.g. for reasons of increased or additional hazards or infeasibility), the duty holder can demonstrate that the de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations appropriate control measures shall be used to protect employees who may be exposed to the electrical hazards involved.
- (vi) As a minimum, approval for working on live equipment shall include documented authorizations obtained from a competent person / authorizer and endorsed by senior management. Such deviations shall be supported by appropriate risk assessment.

### 3.10 De-energized equipment (off) work precautions

- (a) Duty holder shall ensure that:
  - (i) Appropriate precautions are taken to prevent Electrical Equipment which has been de-energized (off) in order to prevent **Danger** while work is carried out on or near that equipment from becoming electrically charged during that work if **Danger** may thereby arise.
  - (ii) Precautions to be taken shall comply with the requirements of *Dubai Aviation City Corporation (DACC) COP – DACC.DS.OPS.OHSE.OST.09.WS - Permit to Work System*.

### 3.11 Work on or near live conductors

- (a) Duty holder shall ensure that:
  - (i) No person are engaged in any work activity on or near any live Conductor other than one suitably covered with insulating material so as to prevent Danger that may arise unless:
    - 1 It is not reasonably practicable in all the circumstances for it to be dead / off (de-energized);
    - 2 It is reasonably practicable in all the circumstances for the employee to be at work on or near while it is live (energized); and
    - 3 Appropriate control measures including where necessary the provision of appropriate protective equipment are taken to prevent injury.
  - (ii) Metal ladders or non-insulated hand tools shall not be used while working in electrical installations. (Handles of all hand tools used shall be insulated and wooden or fiberglass-coated ladders shall be used).

### 3.12 Lighting, access / egress and work space

- (a) Duty holder shall ensure that:
  - (i) Appropriate lighting, means of access / egress and working space are provided at all work on or near electrical equipment/system is being done in circumstances which may give rise to **Danger**.



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- (ii) Appropriate access and working space are provided and maintained about all electrical equipment/system to permit ready and safe operation and maintenance of such equipment. Working space required by this standard may not be used for storage.
- (iii) The depth of the working space in the direction of access/egress to live parts shall be appropriate to avoid danger to personnel working on adjacent equipment.
- (iv) Appropriate illumination are provided for all working spaces about service equipment, switchboards, panel boards, and motor control centers installed indoors.
- (v) Except as elsewhere required or permitted by this standard, live parts of electrical equipment operating at 50 volts or more shall be guarded against accidental contact by use of approved cabinets or other forms of approved enclosures or by other approved and appropriate means of separation.
- (vi) Entrances to rooms and other guarded locations containing exposed live parts are secured from unauthorized entry at all times unless they are under the observation of a competent person.
- (vii) All temporary electrical wiring are installed and protected so that the wiring cannot be damaged by traffic movement (persons and equipment) and are also be protected from sharp edges or suitably raised from ground. Automatic circuit breakers are used in the electrical circuits exposed to heavy equipment passage or hammering by metal machines.
- (viii) Electrical wires are not passed through doors or windows and are kept away from the heating sources such as heaters and are not hung from nails to prevent wearing of the insulating materials. Electrical wires are not hung in erected scaffold connected directly to scaffold pipe and are not tied with steel wires.
- (ix) Appropriate clearance distance are maintained between electrical cabinet doors and electrical installations. Equipment doors and hinged panels must have at least 90 degree opening provided in the workplace.
- (x) Clearance distance specified by DEWA are maintained between employees and any exposed live installations.

#### 3.13 Dangerous goods warehouse lighting protection

##### (a) Duty holder shall ensure that:

- (i) Providing safe lighting may require consideration of the effects of light on the dangerous goods that will be stored and handled including the risks of particular types of lighting design and if they are likely to provide a hazardous ignition source.
- (ii) Lighting shall be in accordance with NFPA-70 National Electric Code (NEC), and shall be such that undue warming of products is avoided. Lights shall be located above entrances and aisles, and not above product stacks.
- (iii) Wiring for electric lighting shall be in accordance with NFPA-70 National Electric Code (NEC) and the necessary certificate(s) of compliance shall be obtained.
- (iv) Where electric lighting is installed in a warehouse that is to be used for flammable or explosive products, it shall be protected in accordance with the relevant provisions of





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NFPA 400: Hazardous Material Code for the class and division of hazardous location that the facility represents.

- (v) No switches shall be installed inside a stock warehouse that is to be used for flammable or explosive products. Main switches shall be positioned outside the warehouse and shall be protected against the weather.
- (vi) Emergency lights shall be placed at strategic positions along escape routes. Each light shall have an independent power supply, such as a battery, which shall be kept fully charged during normal operations. Emergency lighting shall be so arranged that failure of the main supply will automatically switch on the emergency lighting.

### 3.14 Dangerous goods warehouse electrical equipment and installations, other than for lighting

#### (a) Duty holders shall ensure that;

- (i) All electrical installations shall be in accordance with NFPA-70 National Electric Code (NEC) and the necessary certificate(s) of compliance shall be obtained. Only the electrical facilities those are absolutely vital for the operation of a warehouse may be located in the warehouse. All electrical apparatus used shall be protected in accordance with the provisions of NFPA-70 National Electric Code (NEC). When relevant, additional safety requirements of Dubai South shall be complied with.
- (ii) A separate electrical switch room shall be constructed. It shall be located against an outer wall of the warehouse building, and shall be separated from the storage area by walls that provide a fire resistance of 120 min. The door(s) that permit entry to the electrical switch room shall not open direct into the stock warehouse. A drainage system shall prevent the entry of water into the switch room. The main power line into the electrical switch room shall not pass through the storage area; it shall be laid either along the outside of the building or in earth and encased in concrete. Switching to back-up or emergency power supplies, including battery back-up supplies for alarm systems, or to independent default lines or power generators, shall be done either in the switch room or in a safe area well away from storage areas.
- (iii) Wherever practicable, electrical equipment other than for permanent lighting, such as power points, power tools or hand lights, shall not be installed in a warehouse that is used for flammable/combustible or explosive products. Where such electrical equipment is used, it shall be protected in accordance with the provisions of NFPA 400: Hazardous Material Code for the appropriate class and division of hazardous location that the warehouse represents.
- (iv) Operating procedures shall provide for the isolation of non-essential electrical equipment during periods when the warehouse is unmanned.
- (v) Battery charging facilities for electrically operated fork-lift trucks should preferably be in an open-sided, covered area within the marshalling area. If this is not possible, the room or area in which they are kept shall be well ventilated at all times, without direct access from the stock warehouse. Vents in such a room or area shall be as high as possible in the walls, to prevent the accumulation of hydrogen gas. Electrical equipment in this room or area shall be protected in accordance with the provisions NFPA 400: Hazardous Material Code for the appropriate class and division of hazardous location that the room or area represents.



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### 3.15 Inspection, testing, maintenance and tagging

(a) Duty holder shall ensure that:

- (i) All electrical systems shall ensure that appropriate inspection, maintenance and testing arrangements are in place for all systems. This shall be demonstrated through the development of a register of all physical assets which require series of periodic inspection, maintenance and test based on documented risk assessments and tagged if safe or not safe to use.
- (ii) Inspection, Testing and Maintenance programs are documented and take account of the below list as a minimum:
  - 1 Risk levels related to the equipment;
  - 2 Equipment criticality (safety and reliability);
  - 3 Previous failure modes, past experience and maintenance history;
  - 4 Manufacturer's recommendations; and
  - 5 DACC OHSE requirements -
- (iii) Establish and maintain a planning and scheduling system for all maintenance, inspection and testing activities. Results shall be recorded and trended for use in continuous improvement of the overall program.
- (iv) Cancelled, postponed and overdue activities are supported by a documented risk assessment where this assessment reveals the requirement for additional control measures. This assessment are implemented and verified before work re-commences. The ongoing status of cancelled, postponed or overdue activities are regularly monitored and reported to management as a means of monitoring non-compliance with the established program.
- (v) Periodic thermographic survey of electrical system shall be undertaken to reduce the risk of catastrophic fires.
- (vi) Inspection, testing, maintenance and tagging of electrical system are undertaken only by competent and Licensed Individual or Licensed Contractors and in accordance with DEWA Regulations latest edition as published.
- (vii) Periodically review the effectiveness of their inspection, testing and maintenance provisions to determine on-going asset performance / condition and maintenance effectiveness in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 14 – Performance Management* and *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 19 – Management Review*.

## 4.0 RECORD KEEPING

- (a) Duty holder shall ensure record keeping in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 8 – Document Control and Record Management* for the purpose of performance review in accordance with the requirements of *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 14 – Performance Management* and *Dubai Aviation City Corporation (DACC) OHSERF – Regulation 19 – Management Review*.



## ELECTRICAL SAFETY AT WORK

DACC (DUBAI SOUTH) Code of Practice

Document Reference No.: DACC.DS.OPS.OHSE.OST.02.ES

(b) Duty holder shall ensure records of the below but not limited to:

- (i) Competency and Licensed of Individual;
- (ii) Personnel training and awareness;
- (iii) Inspector competency certificate;
- (iv) Inspection and test report;
- (v) Regular maintenance inspection report;
- (vi) Damage and repair report;
- (vii) Equipment / device 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
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
7	Management Review	DACC OHSERF – Regulation 19
8	Safety and Health Requirements in Warehouse	COP- DACC.DS.OPS.OHSE.OPS.11.WA
9	Permit to Work Systems	COP – DACC.DS.OPS.OHSE.OST.09.WS
10	Personal Protective Equipment	COP – DACC.DS.OPS.OHSE.OST.10.PP
11	Emergency Preparedness	COP – DACC.DS.OPS.OHSE.OST.03.EP
12	Dubai Electricity and Water Authority (DEWA) Regulation for Electrical Installation 2017 Edition	
13	NFPA-70 National Electric Code (NEC)	