



WATER AND ENERGY CONSERVATION MANAGEMENT
DACC (DUBAI SOUTH) Code of Practice
Document Reference No.: DACC.DS.OPS.OHSE.STB.01.EW

DUBAI AVIATION CITY CORPORATION OHSE CODE OF PRACTICES



DATE: 20.10.2021

DACC CODE OF PRACTICE – WATER AND ENERGY
CONSERVATION MANAGEMENT



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1. INTRODUCTION

- a) This Code of Practice (CoP) is mandatory to all Operational Facilities operating within the Dubai South jurisdiction. It is designed to incorporate requirements set by UAE and other relevant Regulatory authorities. If requirements of this document conflict with requirements set by another regulatory authority, Operational Facilities 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) Energy conservation and management is a managerial issue as well as technical one. While there is no doubt that technical knowledge is required to identify and implement energy saving measures, it is our organization's management philosophy that drives a successful energy conservation program. An effective energy conservation program is achieved through a combination of proper knowledge, correct approach and a strong management commitment.

1.1 Objectives

The aim of this COP is to guide and motivate our clients and make them aware about energy and water conservation and to reduce the consumption of the same. It also emphasizes on the importance of energy efficiency as a management issue and provides guidance on how to motivate staff and start energy awareness and saving campaign in the areas of steam systems, compressed air systems, motors, combustion, lighting, ventilation, air conditioning, heating, refrigeration, etc.

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 Management, Training and Awareness;*



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- b) Duty Holder shall ensure that all employees should have basic training in health and safety. All relevant employees should have adequate training in the hazards associated with their work especially in the implementation of Energy Conservation along with the precautions to take.

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 to ensure;
 - (i) To develop an effective **Water, Energy conservation and Management** program that will be useful for its operation.
 - (ii) A sustainable use of energy and water conservation has direct commercial benefits and adds a competitive edge. Improvements in the way Dubai South Stakeholders use energy and water conservation will enhance working conditions, reduce operating costs and improve productivity and profitability as well as contribute in saving our planet and environment.
 - (iii) Every staff member is responsible for implementing the guidelines when they are in their work area and common areas.
 - (iv) Duty Holder Representatives/Energy Managers are responsible for performing routine walkthroughs and communicating walkthrough results to the relevant stakeholders and employees.
 - (v) Operations and maintenance employees are responsible for establishing a schedule for their procedures to meet these guidelines, and health and safety requirements, and for verifying compliance with those procedures.

3.2 Water conservation

Water conservation is the preservation, control, and management of water resources. Water conservation is an important aspect of worksite environmental management. While the environmental concerns with industrial operations often focus on pollution, the intense use of resources, including water, also needs to be taken into consideration.

The following are the methods and ways to save water but not limited to:

a) General Operations

- (i) During unoccupied times, all domestic hot water recirculating pumps should be switched off. Considerations should be made for longer unoccupied periods to avoid the water going stagnant.



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- (ii) All plumbing and/or intrusion (i.e. roof, window, door, faucets, water fountain) leaks shall be reported and repaired immediately.
 - (iii) Consider sweeping parking lots and other outside areas instead of cleaning with a hose regularly.
 - (iv) When washing laundry, only run full loads.
 - (v) Where allowable by health and safety codes, wash with the cold or warm setting instead of hot.
 - (vi) Domestic hot water systems shall be set no higher than 120°F (or 140°F for cafeteria service with dishwasher booster).
- b) Restrooms and Showers** - Install water efficient fixtures in restrooms and showering areas. Commercial and industrial facilities often have domestic water uses such as toilet flushing, sinks for hand washing, and showering facilities. These represent great opportunities for water savings. Examples of fixtures that can be retrofitted are the following;
- (i) High-efficiency toilets
 - (ii) High-efficiency urinals
 - (iii) Faucet aerators in sinks used for hand washing
 - (iv) Efficient showerheads
- c) Landscape** - Landscape with water-wise landscaping principles. Many commercial and industrial facilities have landscapes that require irrigation. Taking action to make this efficient can save a lot of water:
- (i) Use native plants or other plants that require little water to thrive in your region.
 - (ii) Plant turf grass only in areas where people will use it actively for recreation.
 - (iii) Organize your landscape into hydro-zones. Hydro zones are areas of landscape with plants and vegetation that have similar water requirements. This prevents over watering of some plants and avoids under watering of others.
 - (iv) Keep soil healthy and add mulch to prevent water loss through evaporation.
 - (v) If watering with a hose make sure it has a shut-off nozzle.
 - (vi) Water landscapes in the morning to pre-vent water loss due to evaporation. Avoid watering when it is windy.
 - (vii) Use a rain barrel to collect water for use in the landscape.
- d) Cleaning** - Make sure all hoses are equipped with an automatic shut-off nozzle. Hoses that don't have an automatic shut-off nozzle and are left running can waste 8 –12 gallons per minute.
- (i) Dry sweep or use a water broom when possible. (Instead of using a hose to clean floors, sidewalks, and other hard surfaces).
 - (ii) Water brooms should be used only when traditional brooms are not able to clean the surface in a satisfactory manner. Additionally, water brooms are superior to hose and spray nozzles in both water efficiency and cleaning effectiveness.



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- e) **Steam** - Retrofit steam sterilizers. Steam sterilizers are utilized by hospitals, research institutions, and pharmaceutical manufacturing. Steps can be taken to reduce the water used by these devices:
- (i) Jacket and chamber condensate cooling modification
 - (ii) Ejector water modification.
- f) **Cooling**
- (i) Improve cooling tower efficiency. Cooling towers often represent the largest percentage of water consumption in industrial operations. Some ways to improve the efficiency of cooling towers and reduce water use:
 - 1. Eliminate once-through cooling.
 - 2. Install a conductivity controller on each cooling tower.
 - 3. Equip cooling towers with overflow alarms.
 - 4. Use high-efficiency drift eliminators. Install sub-meters to monitor make-up and bleed on each cooling tower.
 - 5. Properly train and educate cooling tower operators.
 - (ii) Replace water-cooled equipment with air-cooled equipment when feasible. Water use is often a hidden component of industrial and commercial equipment as it is used for cooling purposes. Often this equipment is available with technology that uses air for cooling. The pros and cons of each should be determined before switching. A couple of factors to consider are energy efficiency and performance. Equipment that falls into this category:
 - 1. Air compressors
 - 2. Vacuum pumps
 - 3. Ice machines
 - 4. Refrigeration condensers
 - 5. Hydraulic equipment
 - 6. X-ray processing equipment
- g) **Laundry** - Manage on-site laundry facilities efficiently. Many industrial and commercial facilities consume a considerable amount of water for laundering.
- (i) For residential-style washing machines, select a low water factor.
 - (ii) Set multi-load machines to run efficiently with separate settings for each cycle.
 - (iii) Assess the feasibility of installing a tunnel washer if large volumes of laundry are being processed.
 - (iv) Evaluate costs and benefits for using laundry systems that recycle water or use ozone technology.



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3.3 Air conditioning

- a) Air conditioners in home or business costs up to 20% of the total electric bill. Reducing the amount of heat in home or business and managing air conditioning use will lower those costs. Some ways to reduce the amount of energy generated are the following but not limited to;
 - (i) Use air conditioning only when ventilation is inadequate;
 - (ii) Always keep all doors and windows closed when operating an air conditioner;
 - (iii) Use curtains or blinds to shade against sunlight, to reduce air conditioning load;
 - (iv) Switch off lighting and heat producing appliances that are not in use to reduce air conditioning load.
 - (v) Where possible, use electric fans, better with a timer control, instead of air conditioners as they consume less energy;
 - (vi) Clean the filters of air conditioners regularly. Remove obstructions at air vents (i.e. air inlets and outlets) of air conditioners;
 - (vii) Switch off air conditioners that are not in use.

3.4 Lighting

- a) Increasing lighting efficiency in home or business is one of the fastest ways to decrease energy bills.
 - (i) Make use of the natural day lighting and thereby eliminate the need to switch on the lights during the day time;
 - (ii) Switch off the lights when no one is in the room. If possible, acquire automatic switching apparatus;
 - (iii) Replace light bulbs with Compact Fluorescent Lamps (CFLs). These energy saving bulbs last longer and use about five times less energy than ordinary incandescent bulbs;
 - (iv) Remove unneeded lamps where lighting levels are too high;
 - (v) Keep your lights and lampshades clean to get the maximum lighting effect;
 - (vi) Paint walls in light colors so that light is reflected back into the room and not absorbed into the walls;
 - (vii) Reduce background light levels and rely more on task lighting. Concentrate light just where it is needed by keeping ceiling lights turned off and by using table or floor lamps;
 - (viii) Place floor lamps and hanging lamps in corners, the reflection of the walls will give more light.
 - (ix) With the exception of required safety lighting, all lighting in unoccupied areas shall be turned off.
 - (x) Natural lighting should be used whenever possible.
 - (xi) Full lighting should be used only when necessary. Do not turn on all of the lights if only using one portion of the space or only entering the space briefly.
 - (xii) Areas that experience intermittent use, such as common areas, shall have lights off until the space is occupied, where switches allow.



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- (xiii) Security/Custodial staff shall use lighting only in active working areas and use additional lighting for safe passage only. They will also be responsible for shutting off the lighting in their work areas when they leave.
- (xiv) All exterior lighting shall be off during daylight hours.
- (xv) Outside of daylight hours, exterior lighting should be optimized to allow for safety and security while minimizing decorative use.

3.5 Electronics

- a) All office machines and other equipment shall be switched off during unoccupied times. Machines that can be feasibly turned off between uses shall be, and where that is not possible equipment shall be set to go into power saving mode. Exceptions include fax machines and any mission critical equipment that must remain on.
- b) All capable computers shall utilize the power management feature's energy saving mode.
- c) All peripheral devices plugged into the CPU, including the monitor, shall be set to go into sleep mode after 10 minutes of inactivity.
- d) Where allowed by the IT management (or ISD), all computers should be turned off outside of business hours. Exceptions include critical network servers, computers required for remote access, or other sensitive equipment, such as IT main systems.
- e) All chargers for phones, laptops, tablets, and any other electronic device shall be unplugged when not in use or once the device is fully charged. Where available, power strips shall be used in order to make cutting power to multiple devices easier. Apps are available for download to alert a user when their device is fully charged.
- f) Personal electronic devices that are not critical to performing job duties should be used as little as possible.

3.6 Offices

- a) Switch off equipment's that are not in use;
- b) When leaving offices, arrange for the last man out to check and switch off the power source to all air conditioners, lightings and office equipment's that are not in use;
- c) Install occupancy/motion sensors to automatically control on/off of lighting in public areas such as corridors, toilets etc.;
- d) Carry out regular maintenance of office equipment for optimal energy efficiency performance;
- e) Keep all windows, lights bulbs and light fittings clean to maintain optimum lighting performance;
- f) Switch off photocopiers and printers after office hours;
- g) Photocopy in batch as it can minimize energy consumption due to less frequent starting;
- h) Switch off computer after office hours or when leaving the workplace to reduce power consumption;



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- i) Use the power management feature to preset the computer to “sleep” or “hibernation” mode when it is idle;
- j) Reduce the brightness level of the screen to the lowest comfortable level;

3.7 Industries

- a) The industrial sector offers tremendous opportunity for energy savings, and a significant opportunity to instill the tenets of energy efficiency within facilities that, in turn, employ and influence millions of people. It has thus been an attractive target sector for countries looking to reach new levels of energy savings through efficiency. The sector itself, working constantly to increase shareholder value and reduce expenses, has found energy efficiency investments to be an attractive avenue to achieve those ends.
- b) Because industrial processes are so diverse, it is impossible to describe the multitude of possible opportunities for energy efficiency in industry. Many depend on the specific technologies and processes in use at each industrial facility. There are, however, a number of processes and energy services that are widely used in many industries.
 - (i) Use properly sized motors and only run when needed;
 - (ii) Use high efficiency motors;
 - (iii) Use electronic variable speed controls where motor loads are variable in normal operation;
 - (iv) Use cogged belts or improved gears: smooth belts often slip and are not efficient;
 - (v) Install improved bearings and lubricate regularly;
 - (vi) Check power factor regularly and improve with capacitor banks, preferably installed close to the running equipment;
 - (vii) Maintain all equipment regularly.

3.8 Risk Assessments

- a) Duty Holder shall evaluate each activity to determine if hazards are present and the workplace shall be assessed using risk management practices as required by ***Dubai Aviation City Corporation (DACC) OHSERF – Regulation 2 – Risk Management***.
 - (i) That appropriate risk assessment for the task is undertaken and shall be communicated to relevant employees and reviewed periodically to ensure control measures are implemented and effective to prevent injury and illness to employees involved to those risk arising from the activity



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4.0 RECORD KEEPING

- (a) Duty Holder/Tenants 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*.

5.0 REFERENCES

NO.	DOCUMENT NAME	DOCUMENT NO.
1	Risk Management	DACC OHSERF – Regulation 2
2	Leadership, Roles, Responsibility and Self-Regulation	DACC OHSERF – Regulation 5
3	Competence Management, Training and Awareness	DACC OHSERF – Regulation 6
4	Communication, Consultation and Participation	DACC OHSERF – Regulation 7
5	Document Control and Record management	DACC OHSSERF – Regulation 8
6	Emergency Management	DACC OHSERF – Regulation 13
7	Incident Management	DACC OHSERF – Regulation 15
8	Personal Protective Equipment	COP – DACC.DS.OPS.OHSE.OST.10.PP
9	OHSE Requirements for Warehouse Operations.	COP – DACC.DS.OPS.OHSE.OPS.11.WA
11	General Environmental Guidelines for Operations	COP – DACC.DS.OPS.OHSE.ENV.02.EG
12	Waste Management	COP – DACC.DS.OPS.OHSE.ENV.03.WM
13	Protection / Protection and Development of the Environment	Federal Law No. (24) of 1999
14	Labor Law and its Amendments	Federal Law No. (8) of 1980
15	Environment Protection Regulations in Dubai	Local Order No. 61/1991
16	Regarding the Level of Medical Attention the Employer is Obligated to Provide to his Workers	Ministerial Decision No. 37/2 of 1982
17	Concerning Public Health and Safety of the Society in the Emirate of Dubai	Local Order No. 11 of 2003