



Health Safety & Environment Community Guidelines

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SECTION – 1

INTRODUCTION

Health, Safety, Environment (HSE) Community Guidelines are baseline information for Business Partner's (BP's) operating within TECOM Business Parks (TBP). The guidelines provide broad standards to ensure a high level of occupational health & safety to people, property, equipment and against hazards associated with commercial and industrial operations within TBP. It also intends to provide adequate guidance on protection of natural environment from pollution in TBP operations. These guidelines are prepared on the basis of requirements under UAE Federal & local HSE requirements.

These guidelines will be periodically reviewed, updated and made available to TBP Business Partners & other interested parties as part of HSE responsibility to operate within TBP. The licensee / occupier / owner are responsible by the Law under Ministerial Decision No. (32) of 1982 and other Federal / State Regulations for the protection of their staff from risks at work, injuries, disease, fire etc. that may result, and must take appropriate precautions to the satisfaction of the Authority. Relevant international regulations & guidelines such as Jebel Ali Free Zone Authority (JAFZA), Health & Safety Executive (HSE - UK), Occupational Health & safety Administration (OSHA), National Fire Protection Association (NFPA) standards and available best practices will be the baseline/ reference line for any requirements that are not referred to in these Guidelines.

TBP Operations Staff is authorized to make visits to all facilities / operations to ensure that the standards and requirements are met. During these visits, unsatisfactory circumstances may be found, which may need correction and these will be drawn to the attention of the BP/ facilities senior management. In case any BP / lessee does not respond positively to notifications, necessary actions will be taken to ensure safety of people, property and environment.

Please ensure that you study these Guidelines and keep this publication readily available for your reference. We look forward to your cooperation to maintain & enhance HSE Standards.

Should situations arise which are not covered by the manuals, or additional questions are generated, TECOM Business Parks HSE Department should be approached for advice or clarification.

SECTION - 2
TBP HSE POLICY

TECOM Business Parks (TBP) is committed to conducting its Business Parks Management in a manner that delivers leading Health, Safety & Environmental (HSE) performance where we operate. We shall meet all applicable HSE regulatory requirements, as well as our own HSE management standards.

We shall pursue pollution prevention and waste reduction; encourage re-use and recycling, conserve natural resources, proactively reduce injuries and illnesses, promote healthy lifestyles and incorporate state-of-the-art HSE practices into our operations.

We shall accomplish this high standard of performance through strong HSE management systems integrated with our strategic business planning, decision-making processes and by setting and tracking measurable HSE goals and objectives. In addition, employees have an individual responsibility to follow HSE procedures and participate proactively in our HSE programs, trainings and committees. We shall evaluate our own HSE performance as well as our suppliers and promote continual improvements.

TBP shall foster openness and transparency with all of our key stakeholders in order to anticipate important HSE concerns, share relevant information, contribute to the development of sound solutions and respond in a constructive and timely manner.

Our vision is to achieve HSE leadership and practice sustainable development. By carefully blending ecological, social and economic considerations into our business planning and decision making processes, we shall balance the interest of the present with those of future generations.

We shall review the policy periodically to ensure relevant and consistent to our Operations.



Dr.Amina Al Rustamani
Chief Executive Officer - TECOM Business Parks
TECOM Investments Free Zone LLC.

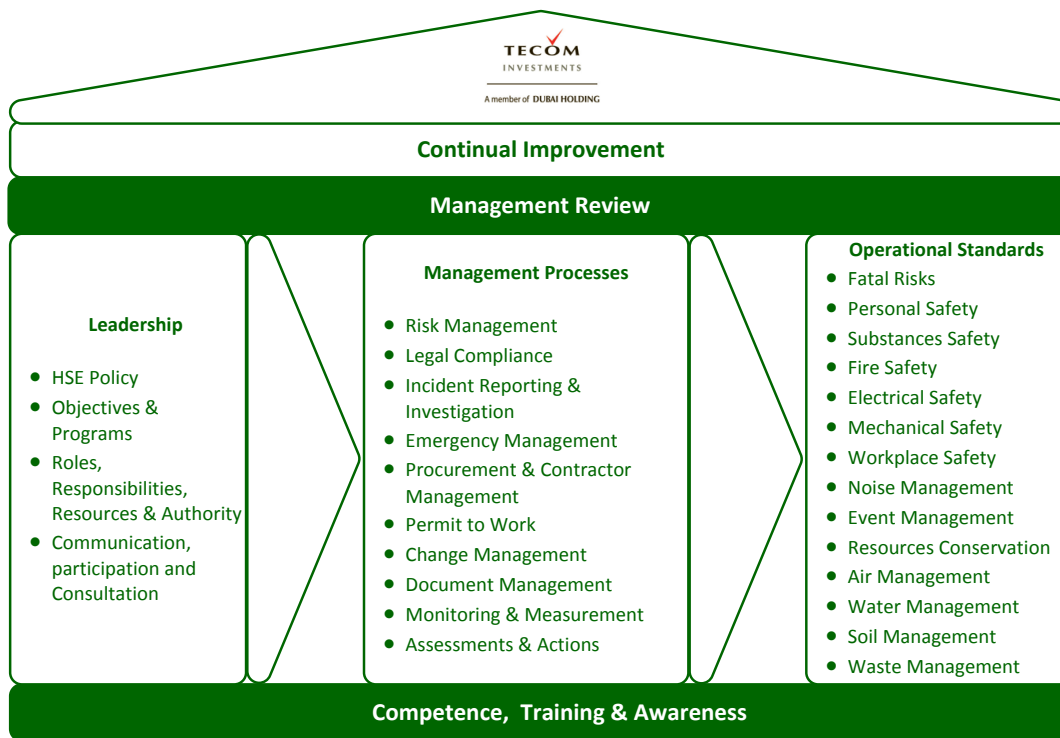
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SECTION - 3

TECOM BUSINESS PARKS HSE MANAGEMENT SYSTEM - GREEN HOUSE



TBP HSE Policy is implemented through the above detailed HSE Management System (HSEMS) termed as Green House.

It is established in accordance with the standard specifications of the ISO 14001:2004, OHSAS 18001:2007; and the requirements stipulated by the local government authorities.

TBP HSEMS forms the basis for a reduction of hazards and environmental impacts so as to improve the overall performance in health, safety and environment at work. Within the framework of this HSEMS, each individual employee has a role to play in maintaining the highest HSE standards and in achieving full compliance with the legal requirements.

It covers the HSE management system requirements, HSE general procedures, OHS procedures, environmental procedures, safe work practices etc.

SECTION -4 RISK & ENVIRONMENT MANAGEMENT

Risk Assessment

The purpose of Risk assessment and control is to understand the hazards that might arise in the course of the organization's activities and ensure that any risks to people arising from the hazards are acceptable or tolerable.

Risk assessment can also be used to make a systematic comparison of different risk control/reduction options. It aids the organization to prioritize any resulting actions to reduce risk.

Procedure

To perform effective risk assessment and control, entity/department/team/ individual shall follow the following steps. Use the standard template for risk register and risk assessment. To begin with **classify work activities**: prepare a list of work activities covering for example premises, plant, people and processes, and gather information about them.

The process is termed as **"TAKE 5"**

1. **Identify hazards:** Identify all significant hazards relating to each work activity
2. **Who is going to harm:** Consider who might be harmed and how they are related to the hazard.
3. **Evaluate risk:** Estimate the risk associated with each hazard, and likelihood , consider the consequences of possible failures.
4. **Determine controls:** Identify the risk controls that exist (or are proposed for planned activities) to reduce the risk associated with each hazard.
5. **Residual risk:** Upon identifying the existing and new controls, reassess the risk, likelihood and risk rating and determine the tolerability.

Determine tolerability: Determine the tolerability of the risks and decide whether planned or existing controls are sufficient to keep the hazard under control and meet legal and other requirements.

Identify Hazards

- ✓ The first step in the process of undertaking risk assessments is systematic identification of all hazards that exist for each work activity.
- ✓ While assessing activity, consideration should also be given to facility/property and environment.
- ✓ Business Unit Head is responsible for assigning competent employees (the assessors) to carry out or review the Risk Assessment.
- ✓ The assessors should be employees who have knowledge of the organization and the work being carried out.
- ✓ It is unlikely that one assessor will have all the competencies required for all the tasks.
- ✓ Level of competence will not only include their level of knowledge, but also their ability to recognize when they do not have adequate knowledge. Assessors shall be trained to carry out their duties.
- ✓ Business Unit Head shall ensure that assessors have the necessary authority to do their job and to act where they consider it necessary.
- ✓ It may be necessary to observe work practices being carried out in order to identify all possible hazards.
- ✓ While identifying Hazards consideration should be given to the following:
 - Non- routine work such as cleaning and maintenance.
 - Hazards to non-employees.
 - Employees should be consulted as to their actual work activities.
 - Accident and ill health records should be examined to help highlight potential problem areas; Long term hazards and those relating to ill-health should be considered as well as those likely to cause physical injury.
- ✓ The use of more than one assessor is beneficial to ensure that work activities are fully and correctly assessed (particularly important for high risk activities).

- ✓ The information gathered will then be used as a basis for determining the actual risk posed by the work activities.
- ✓ All hazards identified should be written in the Hazards column of the Risk Assessment form.

What will be the Harm?

- ✓ Who is likely to be harmed as a result of the activity?
 - The people involved in the task
 - People in the vicinity
 - People who may interact with the activity
- ✓ Identify the possible harm from the activity
 - Musculo- skeletal disorder/repetitive stress injury
 - Visual discomfort/headache
 - Physical stress
 - Physical injury
 - Asphyxiation
 - Partial disability
 - Respiratory ill health
 - Ingestion of hazardous substances
 - Contact with hazardous substances
 - Multiple injuries
 - Loss of limbs
 - Fall at the same level
 - Fall of more than 2 meters

Evaluate risk

- ✓ The next step is to determine the risks associated with each hazard identified in an activity.
- ✓ All risks associated with a hazard must be identified and these include risks to:
 - Employees (including subcontractors) and other interested parties.
 - Property – TECOM's as well as other interested parties.
 - Environment
 - All risks should be identified and documented in risk column of the risk assessment form.
 - When determining risk it is necessary to assume no Control Measures are in place so that trivial risks are not ignored.
- ✓ Risk is essentially a combination of these factors
 - Severity of the injury/ill health.
 - Likelihood / probability of the harm.

Severity

Category	Injury/Illness
1	First aid: Treated in the work place and continued with work.
2	Medical treated case: Visited clinic/attended by ambulance and back to work without absence from the following shift.
3	Restricted work case: Visited clinic and can't perform routine job but can perform part or other light work.
4	Lost time: Resulting loss of more than 3 days excluding the day of injury.
5	Permanent Disability or Fatality.

Likelihood

Category	Description
Rare	Non-occurring but has occurred historically.
Very unlikely	Has not occurred in the industry but occurs in other industries.
Unlikely	Has not occurred in TECOM but occurs in the industry.
Likely	Has occurred in TECOM.
Very likely	Has occurred at site.

Risk Rating (Severity x Likelihood)

		Severity				
		1	2	3	4	5
Likelihood	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

Determine Controls

- ✓ The following illustrates the hierarchical process that must be followed when implementing control measures. Real aim is to make all risks small by adding to precautions as necessary. (Remember risk control hierarchy – **ESCAPE**)
 - **E:** If possible **Eliminate** the hazard.
 - **S:** **Substitute** the hazard with “No” or “Less” hazardous.

- **C: Control** the hazard with possible engineering control such as general ventilation or local exhaust ventilation.
 - **A:** Use **Administrative** controls (Safe systems of work such as PTW, LOTO).
 - **PE:** Providing **Protective Equipment** shall be last resort.
- ✓ The basic principle of controlling risks in the workplace is to either remove the risk or to control its possible impact. Any control measures that are introduced should be designed to:
 - Reduce the number of people that are likely to be exposed to the risk or ensuring that vulnerable persons are not affected.
 - Reduce the likely severity of injury that could be suffered by, for example, limiting the distance that a person could fall.
 - Reduce the likelihood of an injury occurring by introducing appropriate control measures.
 - ✓ It is important to consult colleagues about any proposed control measures, as no control will work in the long term if it does not have the support of the people who have to use it. Consultation will also allow useful information to be gained by learning more about how the work activity is actually carried out in the workplace.
 - ✓ Information, instruction, training and supervision will always play an important part in controlling risks including informing colleagues of the risks identified during the assessment and the protective measures that are in place.

Residual risk (whether acceptable or not)

- ✓ After determining the controls, redo the risk rating and identify in which of the following categories the residual risk falls.

Risk Tolerance Matrix

Severity x Likelihood	Tolerance	Controls
1-3	Negligible	No written procedure and supervision required
4-9	Acceptable	Written procedure and supervision required
10-20	Acceptable with controls	Review and establish controls to bring down the risk to acceptable. Permit to work required.
25	Not acceptable	Don't start the work

Environmental Impact Assessment:

This procedure defines the mechanism for the identification and significance evaluation of the environmental aspects, in order to determine those aspects which have actual or potential significant impacts upon the environment.

This procedure covers all the activities of TBP under normal, abnormal and emergency situations. A Cross Functional Team championed by HSEMR shall identify environmental aspects of TBP activities. Separate teams may be formed to evaluate particular entity/department's activities and services. The team may also call upon other individuals in the organisation when needed.

Identification of Environmental Aspects:

- ✓ For all activities, products and services under normal, abnormal and emergency operating conditions, identify the actual and potential environmental aspects and impacts by evaluating their interactions with the environment through:
 - Legal and other requirements
 - Processes
 - Identification of waste streams

- ✓ Identify both the direct and indirect environmental aspects that can interact with environment and their associated environmental impacts. Where relevant, consider
 - Air emissions
 - Waste water discharges
 - Liquid & solid wastes
 - Energy usage
 - Storm water discharges
 - Land condition
 - Storage tanks
 - Use of raw materials and natural resources
 - Noise, odour and dust nuisance
 - Other local environmental and community issues

- ✓ In addition to current activities, consideration shall be given to relevant past and planned activities. This process shall also cover indirect environmental impacts as a result of goods and services purchased.
- ✓ Identify all actual and potential, positive and negative, on-site and off-site environmental impacts associated with each of the identified aspects. An environmental aspect may have multiple environmental impacts. An environmental aspect may also have different environmental impacts under the respective operating conditions.
- ✓ Record the environmental aspects and their associated environmental impacts in MP 06 F 03 Environmental aspects register, attached with this procedure.

Evaluation of Significant Environmental Aspects:

- ✓ An environmental aspect is considered as "significant" if it meets any of the pre-determined criteria as follows
 - Determination of Significant Aspect is based on a 4-4 matrix of 'Consequence' and 'Frequency'. The pre-determined criteria are explained below (4.5). An aspect shall be significant if the 'Consequence + Frequency' is 6 and above.
 - If there is a legal requirement to control the environmental impact of that particular aspect it becomes significant. Record "Y" in the Legal requirement column of Aspects Evaluation Register.
 - If there are environmental concerns raised by Interested Parties that particular Aspect becomes significant. Record "Y" in the 'Interested Parties column of Environmental Aspects Register.
- ✓ If the pre-determined criteria are found to be unsuitable for evaluation purposes in view of changing conditions, Cross Functional Team may review and re-establish the significance aspect evaluation criteria. Any changes shall be updated.
- ✓ The significant environmental aspects are not ranked in terms of priority for improvement of environmental performance.
- ✓ Record the results of evaluation in MP 06 F 03 Environmental Aspects Register.
- ✓ Environmental aspects identified as significant shall be managed to prevent, minimise or mitigate the environmental impacts. Where practicable, preventive measures shall be taken into consideration and depending on the situation, this may entail combinations of the following:
 - Planned programmes for improvement.
 - Controls to maintain performance, e.g. operation control and emergency preparedness and response procedures to ensure that they are in line with environmental policy.
 - Investigation and development of opportunities for further improvement.

- ✓ HSEMR or his designee shall maintain and update the Environmental Aspects Register.
- ✓ The significant aspects will then be prioritised based on existing resources for setting the company's objectives and targets, as well as environmental management programmes. (Refer to LS 02 Objectives & Programmes).

Updating the Environmental Aspects Register:

- ✓ The Environmental Aspects Register shall be reviewed on an annual basis.
- ✓ When new/ modified processes, equipment or chemicals are introduced, the CFT shall update the Environmental Aspects Evaluation Register.
- ✓ The results of the review shall be considered to formulate new Environmental Management Programmes for the next fiscal year.

ENVIRONMENTAL SIGNIFICANCE CRITERIA

- ✓ An Environmental aspect becomes significant if the Consequence + Frequency' is 6 and above.
- ✓

Frequency	
Impact Occurrence	Rating
Continuous - On going/daily affair	4
Frequent - More than weekly but less than monthly	3
Infrequent - More than monthly but less than yearly	2
Improbable - Once in few years or never occurred so far	1

Consequence Criteria				
Aspect	Serious 6	Moderate 4	Minor 2	Negligible 0
Emergency Situations	Disastrous to neighbours	Hazard to neighbours	Hazard to site only	Unlikely to have adverse impact on human health or the environment due to negligible magnitude or harmfulness
Hazardous Emissions	Beyond legal limits	Within legal limits – large quantity	Affect health/ Ozone Layer	
Waste Water Discharges	Disturb water ecology	Within legal limits – large quantity	Within legal limits – small quantity	
Waste Generation	Toxic waste	General waste – large quantity	General waste – small quantity	
Nuisance	To community	To neighbours	Within the site	
Use of Natural Resources	Extensive quantity	Moderate quantity	Minimum quantity	

Significance Evaluation				
Consequence	Negligible 0	Minor 2	Moderate 4	Serious 4
Frequency	Consequence + Frequency			
Improbable 1	1	3	5	6
Infrequent 2	2	4	6	8
Frequent 3	3	5	7	9
Continuous 4	4	6	8	10

Significant

(Note: The above criteria for Risk & Environmental Matrix is developed for TECOM Business Parks (TBP) Operations. Business Partners are advised to perform Risk Assessment for all their activities using the above or a relevant matrix of their own.)

SECTION – 5

ROLES, RESPONSIBILITIES & LEGAL REQUIREMENTS

General Responsibilities

Every employer shall provide one or more first-aid boxes containing medicines, bandages, antiseptics and such other first-aid material as may be required depending on the nature of work and as per DMTG No. 25. There shall be at least one first-aid box for every 100 employees. The box shall be located in a conspicuous place and within easy reach of the employees. Use of the first-aid box shall be entrusted to a person specialized in giving first aid treatment.

An employer shall arrange to carry out pre-employment and subsequently, periodic detailed medical examinations at intervals of not more than six months on those employees, who are exposed to the danger of contracting any of the infectious/ occupational diseases.

An employer shall provide his workers with medical care facilities corresponding to the standards laid down by the Ministry of Labor & Social Affairs in co-operation with Ministry of Health.

HSE Representative

The occupier of establishments shall appoint at least one HSE Representative for each workplace. The HSE Representative shall be competent to address the Health & Safety requirements of the organization and shall at all times ensure that HSE Requirements are met. Where an employer employs in excess of 100 persons (or any activity, process or operation involves any risk of life or bodily injury, poisoning or disease, or any other hazard to the health of the persons employed), a full time qualified HSE Officer shall be employed.

Third Party Contractors / Visitors

All third party contractors / visitors to the premises of a licensee / lessee in TBP shall abide by the HSE requirements as set in these guidelines as well as the conditions that may be issued by the lessee / licensee during the period of his visit/works at the lessees premises.

Prohibited Disposals

It is prohibited to throw down, place, abandon or discharge any materials/wastes in any public/communal/private areas (e.g. roads, sewers, open lands, roofs, etc.). Such Prohibitions include (but are not limited to):

- a. All kinds of waste and/or unwanted materials such as garbage, waste paper, waste packing materials, cut pieces or metal or metal chips grit or sandblasting waste, waste water, wash water including overflowing manholes, septic tank/soak away and A/C condensed water.
- b. Anything which may hinder the free passage of vehicles and pedestrians or adversely affect the Environment of TBP areas or cause contamination or any other breach or threat to public health and safety.
- c. Throwing or disposing cloths, plastics, papers, cigarette tips etc in the sewerage line or drainage pipe line & appurtenances is strictly prohibited and doing so attracts penalty.
- d. Unauthorized disposal (without the approval/permit).
- e. Waste generators who require sell /recycle wastes/scrap materials shall ensure that recycling companies are approved by Dubai Municipality – Environment Department.

Oil / Chemical / Waste Water Discharges

It is prohibited to discharge waste oil or throw any kind of unwanted or used /spent oils/chemicals /waste water or litter from any premises, establishments into the drainage network, manholes and storm water line/stream. Any discharge of industrially generated wastewaters / cooling waters etc. into land /sewer shall be permitted only after obtaining a permit. Contraventions shall invite sanctions/penalties as per HSE requirements.

Hazardous Chemicals

It is prohibited to dispose chemicals or other hazardous chemicals like toxic waste; corrosive chemical waste or their empty cans into ordinary skips. Separate special waste containers should be used for interim collection of such wastes prior to disposal/recycling. Prior approval must be taken from the competent department /DM before disposing such waste. It remains the responsibility of the occupier / owner /licensee that generates the waste to ensure that approvals/permits are obtained from the competent department/DM for disposal of any wastes. Such waste generators who sell/recycle wastes/scrap materials shall ensure that third party recycling companies are approved by Dubai Municipality – Environment Department. (Refer DM-TG 26)

Display of Goods

It is prohibited for any client to display, store or abandon goods, deposit waste, park containers/vehicles or carry out any sort of activity outside of their premises and they are to ensure that the footway fronting them is clear, clean and safe.

Littering

Littering is an offence and shall be penalized.

Cleanliness

It is the responsibility of the occupants / licensee to maintain proper housekeeping and keep their premises clean, tidy and hygienic.

Advertisements

It is prohibited to fix any bill, notice, placards or other paper or means of advertisement upon any building, against any wall or places other than the places designated by **Advertising & Venue Management Services (AVMS)**.

Pet Animals

No pet animals, birds or live stock are allowed to be kept or fed in the area /premises without prior permission from the Competent Department.

Public Nuisance

No activities shall be carried out by any lessee / licensee/occupier that shall cause a potential hazard or nuisance to his neighbours and/or public. Such instances could be of air pollution/emissions, noisy operations, improper storage, poor housekeeping, waste discharges, odorous releases etc. All facility operators shall ensure that their operations are carried out safely and in an environmentally sustainable manner with due consideration to their neighbours and public health.

Legal Requirements

All the applicable legal requirements are to be adhered by all Business Partners operating from TECOM Business parks and these include but is not limited to the following:

- Federal Laws relevant to HSE i.e. Federal law no.8 of 1980, Federal Law No. 24 of 1999.
- Ministerial orders, Local orders.
- Dubai Municipality (DM)-Dubai Municipality technical guidelines & relevant requirements, which are accessible on DM portal www.dm.gov.ae
- DEWA -Dubai Electricity & Water Authority (DEWA) regulations.
- Dubai Civil Defense (DCD)/National Fire Protection Association (NFPA) requirements.
- Dubai Civil Aviation Authority (DCAA).

SECTION – 6

PERMIT TO WORK (PTW)

A permit-to-work is essentially a document which sets out work to be done, location, personnel responsible to apply, endorse and approve, date and time and the precautions to be taken.

It is a clear record that all foreseeable hazards are considered in advance and that appropriate precautions are defined and taken in the correct sequence. It does not, however, by itself make the job safe. It is the concerted efforts of all those involved in the permit-to-work system to ensure that the works are carried out safely.

A permit to work system is an invaluable safety tool and should be used for all works carried out by external contractors in areas in which they are unfamiliar. A permit process gives the facilities manager the opportunity to review the safe system of work of the contractor or employee and brings into the open any site safety hazards and their expected controls.

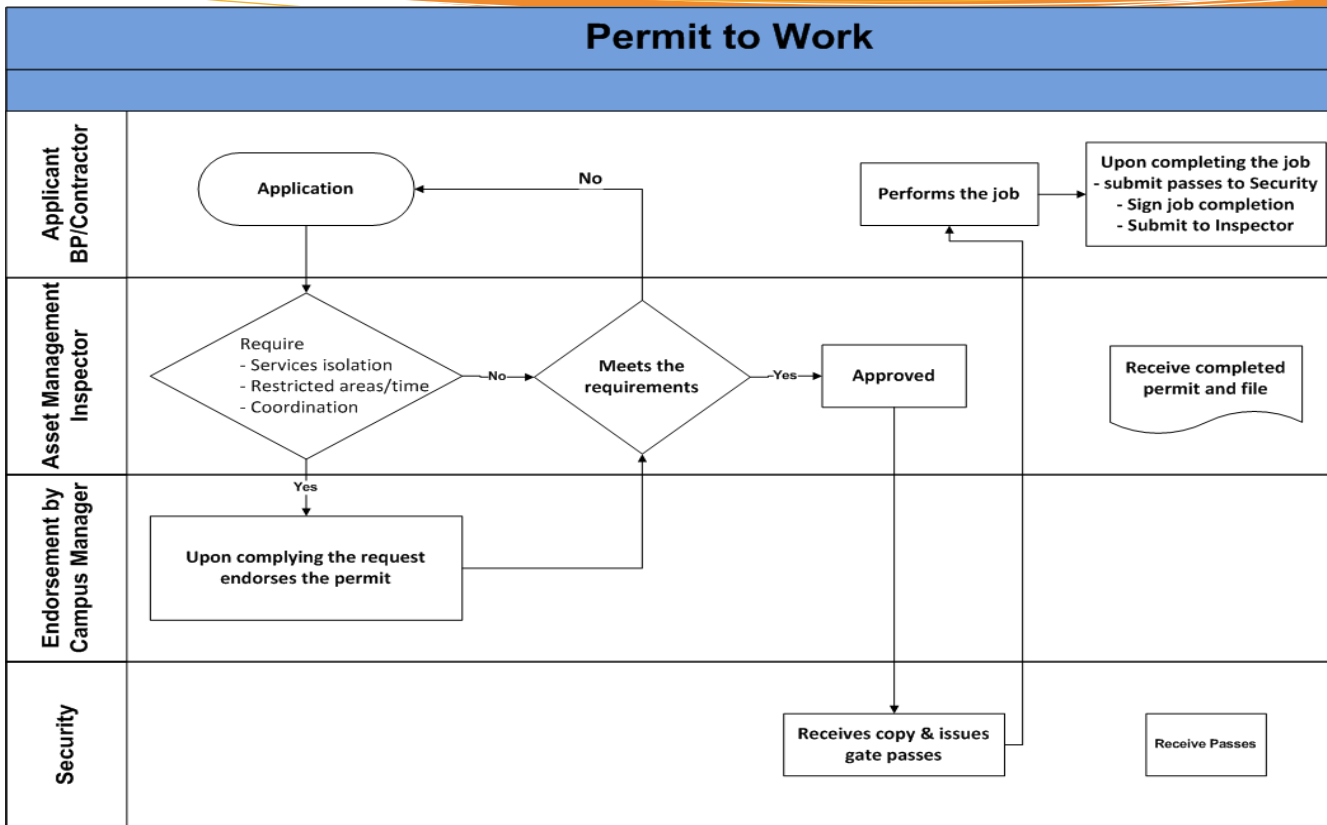
A permit to work from TECOM Asset Management Department shall be obtained prior to the commencement of the following activities

Areas falling under ‘Permit to Work’

- ✓ Fit out Works
 - Works requiring approval from Zoning/Municipality
 - Works requiring no approvals
- ✓ Maintenance works covered under Service Level Agreements
- ✓ Maintenance works not covered under Service Level Agreements

The following work processes (but not limited to) are covered under the permit-to-work system:

<ul style="list-style-type: none"> ✓ Fit out (Minor to Major) ✓ Working at Height (Above 2 meters) ✓ Isolation/Tag out/Lock out of Services ✓ Work in Confined space ✓ Hot work ✓ Work in restricted area ✓ Work with equipment under pressure ✓ Excavation/ Penetration in to structures ✓ Work near live services (Electrical, Fire, Communication, etc) 	<ul style="list-style-type: none"> ✓ Work on Roof Top ✓ Use of Flammable/Toxic material ✓ Work with or in the vicinity of radiation hazards <ul style="list-style-type: none"> ○ Infrared ○ Ultrasonic ○ Microwave ○ Electromagnetic ○ Radioactive material ✓ Excavation ✓ General <ul style="list-style-type: none"> ○ High risk potential works ○ Access to facilities
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Activity based checklists should be filled before starting activity

SECTION – 7
EMERGENCY MANAGEMENT

Emergency Preparedness within TECOM

Emergencies, disasters, accidents, injuries, and crime can occur at any time without warning. Being physically and psychologically prepared to handle unexpected emergencies is an individual as well as an organizational responsibility of all occupants and businesses within TECOM Free Zone.

The information provided is designed as a tabbed, quick-flip reference packet and is developed in conjunction with the crisis plan to minimize the negative effects resulting from an emergency. Please read this guide thoroughly before an emergency occurs and become acquainted with its contents. The guide is provided for reference. Print and prepare a hard copy of these procedures and keep it in an easily accessible place in your office for immediate reference. **Communicate it to all in your office.** When you are familiar with the information, you will be better prepared to protect yourself and your coworkers. Do not count on these web pages to be available during emergencies; natural disasters and power outages may disable the network.

If you have questions about a unique situation that is not covered in this reference guide, need additional emergency information, or would like to suggest or provide feedback, please send a message to TECOMHSE@tecom.ae or Customercare@tecom.ae or call Customercare on **(9) 367 6667** (from Internal IP phone) or **(04) 367 6667** (from Mobile phone)

What You Can Do Now to Prepare

- Keep enough emergency supplies in your office or car (medication, flashlight, comfortable shoes, bottled water, food, batteries, and portable radio) for up to seventy-two hours in case of a serious emergency.
- Prepare your business /office Emergency Evacuation Plan and submit the same to your Business Entity or Security.
- Fill in the Emergency Plan Card for your business/office.
- Print and Post these emergency procedures information in a visible location in your office and communicate it to all.
- Become familiar with the quickest exit routes from your office and building and alternate routes. Next to the elevators and on every floor are Emergency Evacuation Maps to guide you. You can request a soft or hard copy of the map of your floor from the same contact as above.
- Locate the nearest fire extinguisher (normally in the fire cabinets) and Manual Call Point (MCP) station (the little red box on the corridor walls, with either break glass or pull lever fire alarm activation device) and register for an evacuation drill procedure awareness training course through the business entity that you are located in.
- Undergo other emergency training courses such as cardiopulmonary resuscitation, first-aid, basic fire fighting etc.
- Prepare your own personal home emergency plan for your family specifying what to do, where to go, and how to cope until you are all able to get together. Designate an out-of-emirate relative or friend to act as a contact for separated family members.

Additional Information

Phone Numbers

777	From IP internal phone	TECOM Emergency Hot line (Calls to the Control Command Centre dispatch facilitates a 999 /997 response when appropriate)
04-360 1777	From mobile phone	
999	Police and Medical Emergencies (Dubai Police)	
997	Fire (Dubai Civil Defense)	
9-366 1030	Welcare Ambulatory Care in Knowledge Village (Block 10)	
800 900	Dubai Municipality (Food Hygiene Complaints)	

Communication to Business Partners

Emergency Hotline: *(Only to be used for Fire, Life and Safety emergencies within the Zone)*

777 (Internal IP Phone within the Zone)

04-360 1777 (from Mobile cellular phone)

State:

- Type of emergency
- Your name and contact number
- Location of the incident i.e. building, floor, and office number
- Any landmark
- Further details about the incident and/or condition of the patient if applicable

Stay on line and follow instructions.

In addition to dispatching the security guards to assist with securing the incident/accident site and providing immediate temporary assistance, the dispatcher in the Security Control Room will also **contact, coordinate and facilitate** the activation of **Dubai Emergency Service** namely:

- Unified Police Ambulance (9-999)
- Dubai Police and/or (9-999)
- Dubai Civil Defense (9-997)

As soon as Dubai Emergency Service Vehicles enter the Zone, TECOM security patrol will escort them directly to the site.

First Aid Arrangements

First-aid is the immediate, temporary treatment given in the case of accident or sudden illness before the service of a physician can be secured. Proper first-aid measures reduce suffering and place the injured person in a physician’s hands in a better condition to receive subsequent treatment. Also, first-aid should be for prompt attention, given to injuries such as cuts, scratches, bruises and burns which are usually minor in nature. The provision of proper first-aid facilities is an important safety and health requirement. Dubai Occupational Health and Safety Regulations require every employer to ensure the protection of the health and safety of employees engaged in their workplace.

- ✓ In every workplace, there shall be a first-aid box or cupboard provided, maintained and readily accessible during all working hours with the minimum prescribed in Dubai Municipality Environment Technical Guideline 25.
- ✓ Where the number of workers is more than 150, but less than 250, one more additional unit

(complete set) shall be kept in the premises.

- ✓ Each first-aid box or cupboard should be placed in a clearly identified and readily accessible location.
- ✓ Boxes and kits should be checked frequently to ensure that they are fully stocked and all items are in a usable condition.
- ✓ The first-aid box or cupboard should protect the contents from dampness and dust.
- ✓ Where there are 250 or more workers , a first-aid room of size 20 sq. meters containing the prescribed equipment and material should be available under the charge of a qualified first-aider possessing a certificate approved by Dubai Municipality / Government of Dubai / U.A.E.
- ✓ The name of the first-aider should be exhibited on the premises.
- ✓ The employer should ensure that adequate facilities are available to call a physician or ambulance or contact any other agency or to transport the injured person from the workplace.

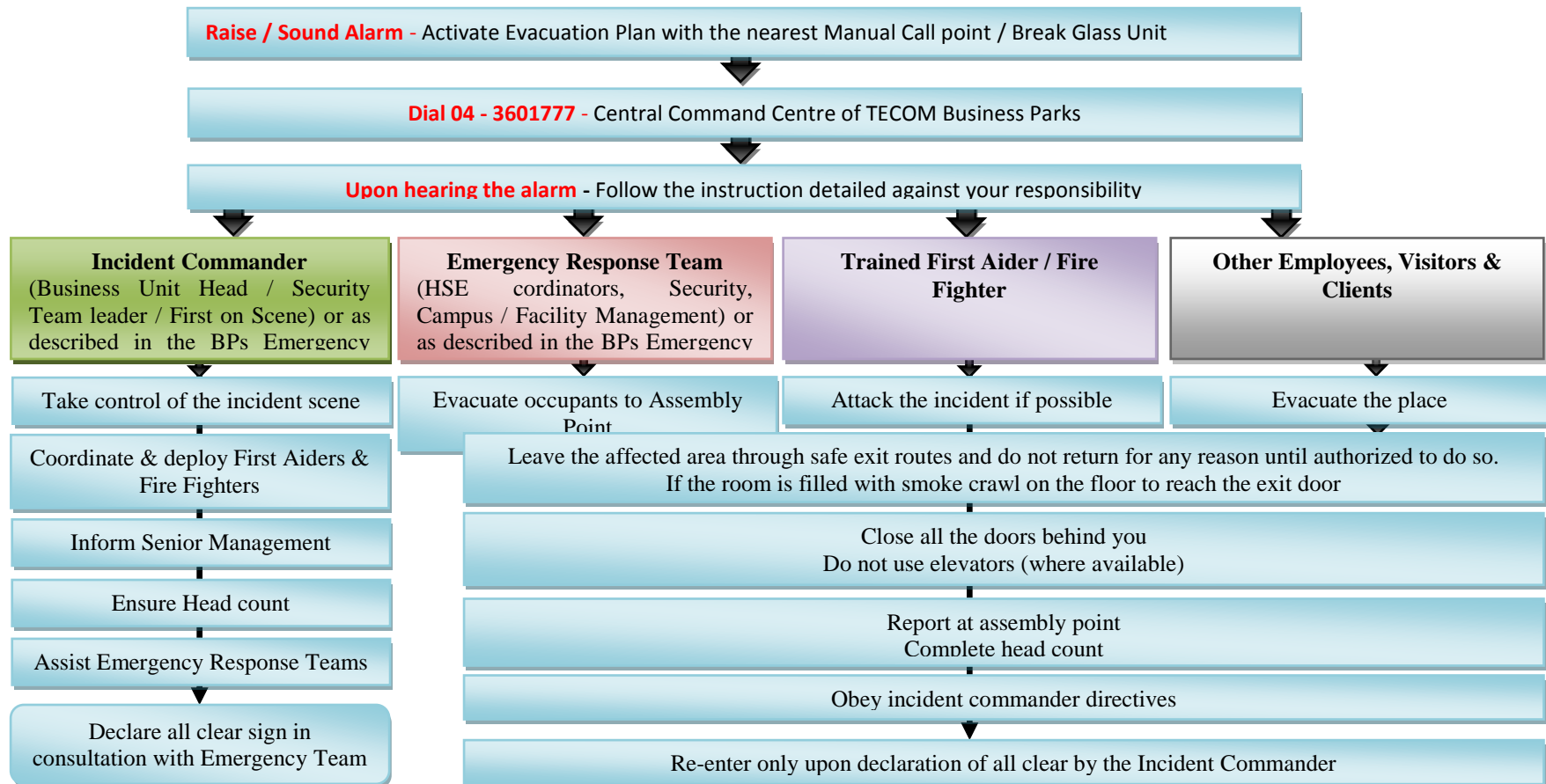
Note:

TECOM Security is not authorized to provide *Emergency Medical, Fire or Police* service. However, they are required to:

- Facilitate and assist you in activating Emergency Services appropriately.
- Meet and guide Emergency Service to the scene of the incident.
- Immediately respond to secure the site and prevent as far as practicably possible, any further damage.
- Provide immediate temporary care within the limits of their training.
- Evacuate the premises if deemed necessary according to set procedures.
- The role of Emergency Hotline is not so much to provide emergency service but to **facilitate the arrival of necessary emergency services** to the incident site at the earliest.

Emergency Evacuation Flow Chart

In the event of an emergency



SECTION – 8 OPERATIONAL STANDARDS

8.1 Fatal risks

Confined Space

A confined space is considered to be any area which, because of its location, contents and the activities performed within it, may be deficient in oxygen or contain flammable/toxic vapours and gases. It may be of any size. Confined spaces usually have limited openings for entry and exit, and unfavourable natural ventilation. They are generally not designed for continuous worker occupancy.

Confined spaces may include, but are not limited to:

- ✓ Storage tanks, boilers, pressure vessels, silos.
- ✓ Open topped spaces of more than 1.5m depth, such as degreasers or pits that are not subject to good natural ventilation.
- ✓ Pipes, sewers, shafts, ducts and similar structures.

When conducting any activities in a confined space, the concerned person should:

- ✓ Conduct a risk assessment with the stakeholders.
- ✓ Monitor the space for Oxygen and flammable/toxic gas levels.
- ✓ Obtain a permit to work from the campus manager/asset management team.
- ✓ Duly comply with Confined Space Activity Based Checklist.
- ✓ Safety rescue harness must be worn by persons working in confined spaces.

Working at height

Throughout industry there are many situations where workers operate in hazardous and potentially dangerous positions, such as elevated workplaces or places where there is potential to fall more than 2 meters.

- ✓ Use safety harness while working at a height of more than 2 meters.
- ✓ No work at height must be undertaken without handrails or safety harness being fitted and used.
- ✓ Ensure to inspect the harness and lanyard for defects before use.
- ✓ Persons working in scaffold including erection and dismantling operations and in the scaffold platform without a proper railing should wear safety harness and be anchored to the permanent structure or fixtures.
- ✓ Anchoring point should be above the wearers work position to prevent maximum free fall to 60 centimeters.
- ✓ If shock absorbing material are used with safety harness, the maximum fall allowed is 2 meters.
- ✓ Mechanical device used in conjunction with harness on permanent ladders, lighting/antenna towers to restrict the drop, should lock instantly under free fall.
- ✓ While working everyone should wear a helmet with chin strap.
- ✓ Precautions must be taken to prevent the possibility of personnel being struck by objects dropped by those working at height e.g. tools secured, area cordoned off etc.
- ✓ Cordon off the below affected area and display appropriate signage.
- ✓ While working on fragile roof use crawling boards and/or along with suitable fall arrestors.
- ✓ Before commencing the activity duly comply with Working at height Activity Based Checklist.

Work on live equipment

- ✓ All work with live equipment must be **justified**.
- ✓ An assessment of the risks, potential electrocution and burns, and necessary safety precautions shall be performed.
- ✓ A written safe procedure must be drawn up by the person in charge of the work.
- ✓ Before any work is carried out on live electrical equipment, all equipment shall be established as isolated or safe to work on before work can proceed.
- ✓ Permit to work shall be obtained to perform the activity.

Once the work has been **justified**, the senior person of the entity must ensure that the following system of work is adhered to:-

- ✓ All work in the vicinity of live electrical/mechanical equipment:
 - shall be carried out by an authorized and trained personnel.
 - shall have in attendance, a trained Standby Person to provide safety assistance.
- ✓ No person shall be compelled to work on live electrical equipment if that person is not satisfied that all appropriate precautions have been taken.
- ✓ Live work must be limited to a specific area, if possible.
- ✓ The work areas must be uncluttered and tidy and of sufficient size to ensure safe working.
- ✓ The lighting must be adequate to ensure safe working.
- ✓ All conducting material within reach must be shrouded or screened whilst live work is being undertaken. Live terminals should be protected by shrouds with access holes for tools.
- ✓ Insulated tools and test probes must be used; these must be regularly inspected to ensure that there is no mechanical damage to the insulation.
- ✓ The appropriate safety devices must be used e.g. an isolation transformer or a RCCB, as appropriate.
- ✓ Repair work, following fault finding on live equipment, must be carried out with the power supply switched off.
- ✓ If live work has to be carried out away from the facilities e.g. in a laboratory, every effort must be made to reduce the risk from electric shock e.g. by the use of temporary shrouding, the use of rubber mats, the use of protective clothing, the use of an isolation transformer, etc.

First Aid

Rapid action in cases of electric shock can save life. Ensure that, competent First Aider is available while performing any task on live equipment.

8.2 Personal safety

Personal safety is a critical aspect of HSE Management system. This standard details the following areas:

- Occupational Health
 - Heat stress
 - Manual lifting
- Hygiene
 - Personal hygiene
 - Hygiene for hospitality staff
 - Food hygiene
- Clinics & Laboratories
- Personal Protective Equipment
 - Head protection
 - Eye and face protection
 - Hearing protection
 - Foot protection
 - Fall protection / safety lines
 - Respiratory protection
- Clients and Visitors

Heat Stress

Heat exhaustion is caused by excessive perspiring because of a hot environment or strenuous physical exertion. The loss of water and minerals reduces the blood supply to major organs such as brain, muscles and skin. This causes a strain on the cardio-vascular system.

- ✓ Know which factors increase the risk of heat stress in the work environment.
- ✓ Increase water consumption to replenish the water lost from sweating.
- ✓ Provide/take rest breaks depending upon conditions such as air temperature, sun exposure, radiating heat exposure and hard physical work.
- ✓ An employer shall provide heat protective clothing and equipment, when possible, loose lightweight clothing which encourages heat to be released and covers most areas of the body.
- ✓ An employer shall plan work schedules to help the employees to adapt to the heat for better acclimatization.
- ✓ An employer shall not require/allow an employee who is physically unfit to work in hot environment.
- ✓ An employer shall ensure adequate cool drinking water is available at each workplace. Sweet drinks such as canned soft drink should not be provided as these increase fluid loss.
- ✓ An employer shall ensure adequate medical facilities are made available in case of medical emergencies due to heat stress.

Manual Lifting

Back injury is a common workplace problem. Most of the back injuries can be prevented. Follow the steps below to prevent back injuries:

- ✓ Position your foot close to the object.
- ✓ Bend your knees keeping your back straight.
- ✓ Hold the object close to the body with both hands, the object should be below your chin.
- ✓ Lift the object keeping the back straight i.e. lift with your legs.
- ✓ While keeping down follow the same directions.
- ✓ If you feel that the object is beyond your capacity take assistance.
- ✓ Never take a risk of lifting heavy objects.
- ✓ Wherever possible use manual handling aids such as crow bars, hand hooks, trolleys etc.
- ✓ In all cases the carried load must not be more than 50 kgs for men and 20 kgs for women.

Personal Hygiene

- ✓ Facilities provided for staff, such as toilets, lockers, changing room, pantry etc., should be adequate for the number of staff and in a clean and hygiene state.
- ✓ Lavatories, wash basins, showers etc. should be clean, with adequate sanitary facilities i.e., toilet paper, soap, hand cleaner etc.
- ✓ Pantry and cafeteria areas should be clean, with no flies or vermin and garbage should be controlled.
- ✓ Respective area management shall conduct regular hygiene inspections.
- ✓ Notices should be posted to remind staff of good hygiene practices.
- ✓ Advice employees to report illness to their immediate superiors.
- ✓ 'If you are sick, especially with vomiting, diarrhea, or skin infections do not go to work' or as advised by the physician.
- ✓ Food waste shall be disposed only in trash bins with lid and plastic liners.

Hygiene for Hospitality staff

- ✓ All food handlers should undergo comprehensive medical examination and should have a valid health card issued by Dubai Municipality.
- ✓ All food handlers should have basic training in hygiene and safe handling of foods.
- ✓ Always wear clean uniform which should be changed daily and when necessary.
- ✓ Hand washing facilities should be equipped with hot and cold water, soap and tissue papers in addition to following proper hand wash techniques.

Food Hygiene

- ✓ Garbage bins should always be covered.
- ✓ Keep foods clean and cover them whether cold or hot.
- ✓ Smoking is prohibited in food preparatory areas.
- ✓ Health cards should be issued for food handlers.
- ✓ Leftover food should not be stored, reheated and served on the next day.
- ✓ Food should not be piled inside refrigerators or freezers. They should be separated to facilitate cooling.
- ✓ Frozen meat and poultry should not be defrosted at room temperature or inside containers filled with water. They should be defrosted inside the refrigerator to ensure gradual defrosting.
- ✓ Hand wash stations should be provided with liquid soap, tissue papers, and a nail brush.
- ✓ Cooked foods should be kept in heaters at temperature of 63-74°C.
- ✓ Salads, vegetables, sweets and deserts should be at a temperature of 4-6°C.
- ✓ Equipments, utensils and tables should be made of stainless steel wherever applicable.
- ✓ Do not wear street cloths inside the kitchen. Keep them in the dressing room outside the kitchen.
- ✓ Consider the food you prepare is your own food.
- ✓ Adequate lighting and ventilation shall be maintained.
- ✓ Food shall be transported in clean and temperature controlled vehicles.

Personal Protective Equipment (PPE)

- ✓ Provide adequate and appropriate personal preventive equipment to protect workers against dangers arising from the work activity.
- ✓ Worker shall use the protective equipment and clothing supplied to him and store them properly after use.
- ✓ Employer shall provide adequate lighting, drinking water and toilets.
- ✓ Employer shall provide medical care facilities to his workers.
- ✓ Employer shall inform each worker at the time of recruitment of the dangers connected with his occupation.
- ✓ Every worker shall comply with the instructions and orders respecting industrial and personnel safety precautions.
- ✓ The worker shall use the protective equipments and clothes supplied for this purpose and shall comply with all the instructions of the employer.
- ✓ Every employer shall brief his employee about the occupational risks before he assumes work.
- ✓ Worker shall not enter where machines are present or in operation without suitable outfit.
- ✓ Maximum load carried must not be more than 50 kg for a man and 20 kg for a woman.
- ✓ Employees working in maintenance jobs shall wear safety shoes and attire.
- ✓ Wear an approved hard hat when working in areas where there are chances to be hit by falling objects or liability to bump head against hard object.
- ✓ Wear ear protection while working at or around high noise level areas.
- ✓ Use safety harness while working at height. Life line shall be anchored to a secure anchorage point.
- ✓ Clean the personal protective equipment with disinfectants at regular intervals.
- ✓ For specific tasks use the gadgets as detailed in the table at the end of this document.

Clients & Visitors

- Safety of clients or visitors to the workplace is the responsibility of the host.
- Make sure they comply with TECOM requirements such as PPE & Work procedures.
- Keep them away from the hazardous zones such as chemical store, battery room, generator room, slippery floors etc.
- In case of emergency, guide your client or visitor.

PPE Requirement					
Activity	Protection				
	Eye	Respirator	Gloves	Apron	Shoes
Cleaning/ Chipping	Goggles	Mask	Leather	-	Safety
Grinding/ Machining	Face shield	Mask	Leather	Leather	Safety
Welding	Face shield	Respirator	Leather	Leather, Leg & Arm guard	Safety
Burning	Goggles		Leather	-	Safety
Grease/ oil	Glasses	Respirator	PVC/ Barrier Cream	-	Safety
Chemicals/ Chemical dust	Face shield	Respirator	PVC/ Neoprene	PVC/ Neoprene	PVC
Refrigerants	Goggles	-	Leather		Safety
Painting	Face shield	Respirator	Leather/ PVC	Disposable	Safety+ disposable cover
Electrical	Face shield	-	Rubber	Rubber	Electrician Shoe

8.3 Workplace Safety

Safety in the workplace plays a vital role in the productivity of an organization. Workplace danger varies from life-threatening, chronic to causing acute injury/illness. This standard aims to provide guidelines and best practices followed in the following areas;

- ✓ Office safety
- ✓ Ergonomics
- ✓ Pantry/kitchen
- ✓ Lighting
- ✓ No smoking
- ✓ Housekeeping
- ✓ Clinics & laboratories
- ✓ Pets

Office Safety

Accidents do happen in the office. Few office workers realize that they are twice as likely to be injured in a fall as a non-office worker.

The following are some examples of common hazards, which can be prevented from becoming accidents.

- ✓ Floor and walkway shall be maintained clear from obstructions / materials.
- ✓ Drawers and cabinets are closed after use.
- ✓ Supplies are stored inside cabinets, not on top of them.
- ✓ Heavy items are stored in lower drawers or on low shelves.
- ✓ Slippery surfaces are identified, signage posted and cleaned immediately.
- ✓ Chairs, desks or boxes are not used to reach heights.
- ✓ Only step ladder are used to reach heights.

- ✓ Defective equipment such as burned out lights, loose steps, torn carpet, etc are identified and fixed.

Ergonomics

Ergonomics is the science that seeks to adapt task and tools to fit the person. It's a way of looking at the design of tasks, tools, equipment and workplace and the overall organization of work to fit the job to the person, rather than the person to the job.

- ✓ All workstations shall be provided with ergonomic workstations.
- ✓ Furniture procurement shall follow the standardization policy.
- ✓ Employees shall be made aware of 3 adjustments possible with the chairs. Such as seating height, lumbar support and arm rest.
- ✓ For guidance in selecting office furniture and setting up workstations, employees shall use attached "Self evaluation checklist for office ergonomics".

Pantry/Kitchen

Many potential hazards exist in kitchens and food preparation areas. This standard describes the precautions to be taken against major hazards associated with kitchen activities.

- ✓ Premises and equipment
 - The facility should be located away from any potential sources of contamination especially air pollution. Area should be kept clean and free from debris, which may harbour pests.
 - The facility should have adequate ventilation and lighting suitable for the type of activity.
 - Walls, ceilings and floors should be made from good quality material preferably mosaic or ceramic tiles.
 - A good drainage system should be in place to prevent contamination.
 - Microwave ovens shall be maintained clean & tidy and away from smoke detectors.
 - Use of hot plates should be discouraged.
- ✓ Pest control
 - Adequate insect killers should be provided and properly distributed.
 - There should be a contract with a pest control company approved by Dubai Municipality.
- ✓ Food transportation & receiving
 - Food should be transported in clean and temperature controlled vehicles. Pallets should be used to avoid putting food directly on the floor.
 - Special receiving areas should be provided and maintained in clean and hygienic condition. Before receiving the foods, ensure that they are at the proper temperature.
- ✓ Storage
 - Adequate and separate facilities and equipment should be provided for storing different food items. Racks or shelves should be made from stainless steel, and temperature should be controlled and maintained.
 - Cold food should be stored at 5° C or less within refrigerators.
 - Hot food should be held above 60°C.
- ✓ Equipment and preparation areas
 - Food preparation equipment and utensils should be designed and of such a material and workmanship as to facilitate cleaning and maintenance.
 - Preparation and cooking areas should be adequately separated and furnished with suitable stainless steel equipment.
 - Preparation of fish, meat, poultry and vegetables should be conducted at separate and labeled areas.
- ✓ General Cleaning
 - Proper cleaning schedule should be maintained. Good quality cleaning & sanitizing tools such as brushes, brooms, mops, etc., should be provided.
 - Floors should be cleaned regularly and according to a programme for each food preparation area.

Lighting



Different tasks require different levels of lighting. Areas, in which intricate work is performed, for example, require greater illumination than warehouses.

There are a number of measures that can be used to prevent and control poor lighting conditions in the work environment:

- ✓ Regular maintenance of the lighting system should be carried out to clean or replace old bulbs and faulty lamp circuits.
- ✓ A light-color matt finish on walls, ceilings, and floors to reduce glare is recommended.
- ✓ Whenever possible, office workers should not face windows, unshielded lamps, or other sources of glare.
- ✓ Adjustable shades should be used if workers face a window.
- ✓ Diffuse light will help reduce shadows. Indirect lighting and task lighting are recommended, especially when work spaces are separated by dividers.
- ✓ Task lamps are very effective in supplementing general office lighting for those who require or prefer additional lighting.
- ✓ Light levels or luminance must be selected to match the range of occupant tasks and both the age and visual characteristics of occupants. Small and low-contrast objects require more light for equivalent visibility. More light is also required if occupants are older or have visual problems.

If the activities in office involve both reading and writing tasks, as well as screen based or computer tasks, then light levels should be assessed in both:

- ✓ A minimum of 320 lux is recommended for office tasks such as reading and writing.
- ✓ For screen based tasks, a minimum of 160 lux is recommended against the computer monitor.

No Smoking

Without exception, the standard is applicable to all employees, business partners, visitors and contractors who visit or work within TECOM Investments and its Business Entities.

- ✓ No Smoking signs shall be posted at the main entrances in all TECOM buildings and prominent places within the buildings.
- ✓ All visitors and contractors shall be advised of the “No Smoking Policy” by the person interacting with them.
- ✓ All designated smoking areas shall have suitable non-combustible receptacles (ashtrays, etc) for extinguishing and discarding cigarette ends and tobacco.
- ✓ In high fire-risk areas (clearly indicated by caution sign), which are outside, ‘No Smoking’ sign shall be posted prominently.
- ✓ The head of a Business Entity shall ensure signages are posted appropriately as stated above.
- ✓ By default, smoking area is outside a building/structure in the open air.
- ✓ Failure of business partners, visitors and contractors to comply with this “No Smoking” standard may result in their removal from the location concerned and could even have legal consequences and cause termination of lease agreement and trade license.

Housekeeping

Housekeeping means "A place for everything and everything in its place". TECOM management recognizes that "Good housekeeping" is one of the vital tools in getting a job done safely and effectively.

It shall be the responsibility of each individual to ensure that his work area is kept clean and orderly.

The following guidelines / measures shall be taken to maintain good housekeeping within the premises:-

- ✓ All working places, working rooms, passages, store rooms, office rooms, etc., shall be kept in clean and hygienic condition.
- ✓ The floor of every working room and other places shall be maintained clean and as far as practicable, dry and non slippery.
- ✓ All toilets, wash basins, drinking water points etc., shall be maintained in hygienic condition.

- ✓ Adequate number of waste containers shall be provided in all the places and these shall be emptied periodically.
- ✓ Any spills, shall be cleaned without undue delay.
- ✓ Materials with protruding nails shall not be left lying around.
- ✓ Passages, walkways, staircases, etc., shall not be obstructed.
- ✓ Access to safety and fire fighting equipment's, electrical control panels, and safety showers shall be kept clear.
- ✓ No leads, plants, boxes, cables, hoses, etc., shall be run across pathways.
- ✓ Don't overfill racks, bins or storage areas. Clear out items that are no longer used, past their use-by date, etc. Let your superior know if more storage space is needed.
- ✓ Store and stack safely: Never store objects, especially heavy ones, where they're hard to reach or liable to fall.
- ✓ Regular cleaning routines should be in place, to include overhead, odd corners and roof/floor voids.

Clinics & Laboratories

Biological hazards are present in all human and animal tissues and body fluids. Clinical and laboratory related activities expose employees to disease transmission and occupational hazards from blood, urine, sweat, saliva and muscle tissue.

- ✓ All personnel responsible for procedures implementation and obtaining samples from human subjects must be familiar with the bio hazard safety guidelines and have had the appropriate training and authorized approval.
- ✓ Dispose blood tubes into a biohazard sharps container.
- ✓ Dispose sharps into a biohazard sharps container.
- ✓ All other bio hazardous waste is to be deposited into an orange biohazard bag.
- ✓ All sharps, broken glass etc. are to be deposited into a yellow plastic biohazard sharps container.
- ✓ All persons involved in taking blood must provide written evidence of training.
- ✓ No food or beverages will be brought into or consumed inside bio medical testing areas.
- ✓ Staff must be trained in decontamination procedures and appropriate spill kits made available.
- ✓ An eyewash station must be readily available in the laboratory.
- ✓ A method for decontaminating all laboratory wastes should be available in the facility, preferably within the laboratory (e.g., autoclave, chemical disinfection, incineration, or other validated decontamination method).
- ✓ Laboratories / Clinics must have a sink for hand washing. The sink must be hands-free or automatically operated.
- ✓ Gloves must be worn to protect hands from exposure to hazardous materials. Glove selection should be based on an appropriate risk assessment. Gloves must not be worn outside the laboratory.
- ✓ Hand washing protocols must be rigorously followed.
- ✓ Eye, face, and respiratory protection must be used in rooms containing infected animals.
- ✓ Laboratory / Clinical personnel must be provided medical surveillance and offered appropriate immunizations for agents handled or potentially present in the premises.
- ✓ Used disposable needles and syringes must be carefully placed in conveniently located puncture-resistant containers used for sharps disposal.
- ✓ Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant.
- ✓ Equipment should be routinely decontaminated, as well as, after spills, splashes, or other potential contamination.

Pets In an effort to respond to concerns of health (especially allergies), fear and safety concerning pets, including but not limited to the workplace, the guidelines are:

- ✓ In order to accommodate individuals with a disability, service animals are permitted on the premises with a pre- approval from campus management.
- ✓ Animals involved in media production/events are also allowed if approved by the Campus Management.

- ✓ Unauthorized animals are not allowed in common use areas including but not limited to conference rooms, classrooms, rest rooms, and food courts.
- ✓ For media production and events only clean, trained, well-behaved, and non-aggressive and Dubai Municipality registered animals are allowed on the premises.
- ✓ It is the owner's responsibility to ensure that animals relieve themselves outside, and to clean up after the animal and dispose of the animal's waste properly. All indoor accidents are also the responsibility of the owner/authorized and not the custodians.
- ✓ Authorized animals are to be leashed or kept under control at all times.
- ✓ A sign must be posted so that visitors will expect an animal in the area.
- ✓ All authorized animals must be healthy and pose no health risk to humans as carriers of active infections, parasites, etc.
- ✓ Owners must comply with all local regulations such as licensing, vaccinations, and have proof of compliance available at all times.

8.4 Mechanical Safety

The potential danger in mechanical safety is in the use of pressure vessel, cranes, lifts, hoists, other lifting appliances and hand tools. The causes of accidents vary from improper maintenance, non-provision of warning systems and poor upkeep of safety standard.

To reduce accidents resulting from equipment failure, competent person shall conduct periodical assessments to evaluate the condition of equipment and ensure the compliance with the relevant standards.

Machine Guarding

- ✓ All moving parts of machinery and equipment shall be guarded effectively, preventing persons from coming in contact with them. These include punching, trapping, crushing or pulling hazards.
- ✓ The hazards may be created by:
 - ✓ The point of operation - area on a machine where material is positioned for processing or changes by the machine. E.g. cutting, pressing, turning, grinding operation.
 - ✓ Power transmission - All mechanical components including gears, cams, shafts, pulleys, belts which transmit energy and motion from the source of power. E.g. belt drives, gear drives, shafts, pulleys, etc.
 - ✓ In-running nip points or bites - Two or more mechanical components such as gears or rolls rotating in opposite direction in close interaction or meshing, e.g. gear meshing, rolls in calendaring machine, sheet rolling machines.
 - ✓ Shear points - Reciprocal (sliding) movement of a blade or component past a stationary point on machine, e.g. guillotine shearing, cutting operations.
 - ✓ Flying chips and sparks
 - Flying fragments due to operation and bursting.
 - Sparks generated during operation of equipment e.g. - Grinding/buffing operation grinding wheel bursting.

Hand tools: Hammers, Chisels, Spanners etc

- ✓ Ensure that the hand tools used are in sound condition.
- ✓ Use the tools designed only for the intended purpose.
- ✓ Hand tools shall be used only in the jobs that they have been designed for.
- ✓ Insulated hand tools shall be used when working on electrical insulations.
- ✓ Adjustable wrenches shall be fixed on nuts.
- ✓ It is not permitted to increase the torque by increasing the length of the wrench handle or nuts.
- ✓ It is not permitted to insert any material to secure box wrenches on the bolt heads or nuts.
- ✓ It is not permitted to use wrenches on moving parts of any machine. Wrenches are not permitted to be used as hammer unless it is designed for that.
- ✓ When hammering chisels, it shall be held by chisel holder and not by hand unless it is fitted with sponge rubber.

- ✓ The suitable tools for fixing or un-tying bolts or nuts according to the type and the hardness of metal.
- ✓ Special torque wrench shall be used when it is needed to fix nuts or bolts to a certain torque.

Polishing and grinding machinery

- ✓ Grinding wheels shall not be operated at a speed in excess of that which is recommended by the manufacturer.
- ✓ Defective wheels shall not be used.
- ✓ Grinding wheels shall be kept as true as practicable, and the work rest shall be kept adjusted close to wheels, leaving a maximum gap of 6 mm.
- ✓ Energy or abrasive wheels shall be provided with a sheet metal guard that shall enclose the wheel as far as possible to retain fragments in the event of bursting.

Boilers & Pressure vessels

- ✓ The inspection & certification of boilers and pressure vessels shall be made at the time of installation and at regular intervals of 12 months thereafter. It is essential that inspections should be thorough and complete.
- ✓ Only technically qualified and experienced person who have been approved as competent persons to examine and test boilers and pressure vessels by the Environmental Protection and Safety Section, Dubai Municipality shall examine and test boilers, compressor air receives and other pressure vessels.
- ✓ **Hydrostatic test:** The hydrostatic test shall not exceed 1 1/2 times the maximum allowable working pressure.
- ✓ **Steam Test:** After every repair, a steam test shall be done and the safety valve shall be set to correct popping pressure and sealed.
- ✓ **Repairs:** Any repair of boiler or its accessories shall be done under the supervision of the competent person approved by EPSS Dubai Municipality. After repairs, the boiler shall be certified by competent person.
- ✓ **Pressure Vessels:** It is known that there are numerous types of pressure vessels in use. The most commonly found pressure vessels in industry are air receivers, process vessels, and gas storage tanks etc. operating above atmosphere pressure.
- ✓ The surfaces of shells shall be examined for possible cracks, blisters, bulges and other evidences of deterioration.
- ✓ The pressure test should not exceed 1 1/2 times the maximum allowable working pressure.
- ✓ **Certification by Competent Person:** The safety certification shall be done by the competent person on satisfactory completion of tests and examination of boilers/pressure vessels.
- ✓ The test certificate shall indicate the repairs/alternations/rerating of working pressure etc. made to the vessel.

Mechanical lifting

- ✓ Cranes, hoists, lifts, lifting appliances and gears, forklifts, etc. used in factories, construction sites, hotels and other workplaces shall be tested and certified by a competent person once in every 12 months.
- ✓ Only technically qualified and experienced persons in the company approved by the Dubai Central Laboratory Dubai Municipality shall examine, test and certify cranes and other lifting equipment.
- ✓ A competent person shall issue a certificate of safety after due examination and test, and only after any repairs have been carried out, specifying the serial number, technical details, tests done, safe working load, etc. for each equipment/appliance.
- ✓ The repairs identified by the competent person shall be carried out by the owner/occupier immediately.
- ✓ If the competent person considers that the appliance is unsafe, the owner must be advised to cease use of the appliance and a report must be sent immediately to the Environmental Protection and Safety Section.
- ✓ Any re-rating of safe working load or any other condition stipulated for the safe operation shall be clearly indicated in the certificate.
- ✓ Safe working loads shall be displayed on the appliance.
- ✓ Compliance certificate shall be kept at the site.

Scaffolding/Temporary Platform/Ladder

- ✓ Where work cannot safely be done on or from the ground or from part of a building or other permanent structure, a safe and suitable scaffold should be provided and maintained or other equally safe and suitable provision should be made
- ✓ Scaffolds should be provided with safe means of access, such as stairs, ladders or ramps. Ladders should be secured against inadvertent movement.
- ✓ All scaffolds and ladders should be constructed, erected and used in accordance with national laws and regulations.
- ✓ Every scaffold should be properly designed, constructed, erected and maintained so as to prevent collapse or accidental displacement when properly used.
- ✓ Every scaffold and part thereof should be:
 - designed so as to prevent hazards for workers during erection and dismantling.
 - designed so that guard rails and other protective devices, platforms, putlogs, rakers, transoms, ladders, stairs or ramps can be easily put together.
 - Of suitable and sound material and of adequate size and strength for the purpose for which it is to be used and maintained in a proper condition.
- ✓ Scaffold shall comply with regulations or standards covering detailed technical provisions for the design, construction, erection, use, maintenance, dismantling and inspection.
- ✓ All scaffolding and temporary platforms shall be constructed by a competent person.
- ✓ Ensure that the scaffolding/platform was inspected and approved for use by a designated person in the last one week.
- ✓ It is not allowed to leave scaffolds on high places which expose workers to falling objects hazards.
- ✓ Scaffolding and temporary platforms shall not be used during inclement weather.

Maintenance and Inspections

- ✓ Maintenance and inspection of all equipment shall be carried out as per manufacturer recommendations.
- ✓ Always follow the checklist provided for maintenance, inspection and servicing.

8.5 Electrical Safety

Electricity is extensively used in the facilities for various purposes such as for equipments, machineries, computers and providing general lighting throughout the offices and building premises. Electricity is not dangerous, if used properly. However, if used unwisely, serious accidents can occur. The severity of the injury depends on the following factors:-

- ✓ Nature of current, whether A.C. or D.C.
- ✓ Path of the current flowing through the human body.
- ✓ Duration of contact with the current.
- ✓ Physical condition of the human body, i.e. wet or dry.
- ✓ Magnitude of the current.

The primary hazards due to electrical repairs are as follows:-

- ✓ Electric shock
- ✓ Fires/explosions

General Requirements

- ✓ All equipment, apparatus, materials and accessories used in the electrical installations shall be designed and rated for operation on DEWA electric supply.
- ✓ Appropriate protective devices against over-voltages, fluctuations, transients & harmonics, loss of one or more phases and any unforeseen interruptions shall be provided in all consumer installations as deemed essential, in addition to overload, short-circuit and earth leakage protective devices.

- ✓ Each contractor who undertakes electrical installations is required to have at least one electrical engineer / electrician who holds a valid competency license issued by DEWA. This person will be responsible for correct installation, supervision and testing the entire electrical works.
- ✓ All electrical equipments shall comply with the requirements of the regulations, relevant DEWA's technical specifications, latest edition of the International Electro technical commission and ISO recommendations.
- ✓ Before commencement of any installation or modification of electrical systems necessary approvals should be obtained from DEWA.
- ✓ All installations shall at least be tested once in 2 years by an independent contractor/consultant and reports submitted to DEWA.
- ✓ Don't use appliances with damaged (cut, worn, frayed) cords or cables, faulty or broken switches; cracked, broken or open protective motor and component covers, cases; cracked or broken plugs; no plugs, loose or un-insulated wires; motors with sparks coming from commutator. (remember faulty and sparking power tools can cause explosions and fires in combustible hazard areas).
- ✓ All electrical switch rooms shall be adequately illuminated, ventilated and provided with heavy duty exhaust fans. Doors must be fire resistant/metallic louvered.

Panels and Distribution boards

- ✓ All exposed live terminal connections and bus bars in any low voltage distribution box shall be shrouded and/or insulated.
- ✓ Main and sub main panels / distribution boards and final distribution boards shall be installed in locations accessible at all times. Minimum space: 1500 MM - Front, 750 MM - Sides, 2 M- height from ground level.
- ✓ All metering cabinets and enclosures shall be constructed of fire-resistant materials.

Earthing and Earth Leakage Circuit Breakers (ELCB)

- ✓ It is the statutory requirement that all current carrying metal parts of electrical driven equipment shall be earthed properly.
- ✓ A well proven and recommended device for the elimination of injury by electrocution is the E.L.C.B. Current flow to earth, (for example even through the body) is detected in this system and current is shut off in a matter of milliseconds although the victim may receive an electric shock. The flow does not last long enough to cause death.
- ✓ To prevent electrocution the system of fuse and earth combination shall be applied, for example, if a live conductor touches a properly earthed tool body or casing the high surge of current to earth shall melt the fuse and eliminates the danger by breaking the circuit.
- ✓ Fuses shall be rated for the current flow in use for the appliance. DON'T replace with a higher rated fuse, wire or silver paper. The appliance may work but it is NOT SAFE.
- ✓ Every consumer installation shall be provided with separate earthing system, installed and maintained by consumer.
- ✓ Earthing system shall be connected to DEWA's earthing system. The consumer earth electrode and Earth Continuity Conductors (ECCs) shall be tested periodically.
- ✓ Equi-potential bonding conductors shall be connected to the main earthing terminal within the consumer's wiring installation and the continuity shall be tested and maintained.
- ✓ Operation of all ELCBs/RCCBs, earth leakage detection systems etc shall be checked and tested periodically. Earthing to be connected with a grid of earth pits and earth pit resistance is checked at least annually.

Light Fittings

- ✓ Safety lighting to meet operational requirements shall be provided.
- ✓ All electrical switch rooms and operational areas shall be provided with adequate number of emergency light fittings.
- ✓ The safety and emergency light fittings installed shall comply with BS 5266 and shall be rated for a period not less than 3 hrs of continuous operation.

- ✓ The light fighting shall incorporate necessary battery and charger within.
- ✓ The safety light fitting shall incorporate appropriate sign in Arabic and English such as 'EXIT' and directional arrows, as applicable to the location.

Installations

- ✓ An emergency stop push button shall be incorporated in the control gear of motors.
- ✓ Starters, isolators and push buttons shall be clearly marked in Arabic and English stating which machine they control and their function. To avoid confusion the word START and STOP instead of OPEN and CLOSED shall be used.
- ✓ Motors and their control gear shall be located in well ventilated and spacious locations.
- ✓ Special approval from DEWA should be obtained for installation and connection of stand-by generators.
- ✓ The controls and Protection devices provided in the capacitor bank shall be checked and maintained regularly.
- ✓ Adequate steps must be taken to ISOLATE all danger areas. Sub-stations should be fenced off and locked (key with authorized electricians) with electrical hazard danger signs posted. Junction boxes, panels, distribution boxes - should be sign posted and firmly closed.

Operational requirements

- ✓ Don't tamper with any electric source; panels; outlet boxes etc. Get a qualified electrician for any fault you spot.
- ✓ All electrical isolation/de-isolation should be done only by an authorized electrical person.
- ✓ Never extend cables or cords with temporary 'wire up and tape' job. Get the electrician or approved extension reels.
- ✓ Make sure power cable doesn't get entrapped in rotating parts.
- ✓ Protect all electrical equipment from ingress of water. E.g. rain, washing down.
- ✓ Double insulated portable power tools shall be used where no earth is available. Double insulation means that all metal parts are completely segregated (insulated) from the electric circuit and therefore require no earth.
- ✓ No person without authority should enter any power station, transforming station or switch room.
- ✓ All electrical work shall be done only by an authorized trained, competent electrical person.
- ✓ Never pull up a portable electric tool by the cable. Always carry it by the tool body.
- ✓ Always switch off power and pull out the plug before changing parts on the tool, (such as the grinding disc) or making adjustments.
- ✓ Never leave the power on when not using the tool. Remove plug from socket.
- ✓ Don't let electric cords or appliances come into contact with water.
- ✓ Never insert loose wires of a tool cord into a socket. Always use a plug designed for the socket (e.g. never put a 2 pin plug in a 3 pin socket).
- ✓ Keep cables away from heat sources.
- ✓ Provide suitable padding and protection if tool cords have to pass sharp edges.
- ✓ If the tool is overheating - don't use it; get it inspected by a qualified electrician.
- ✓ Keep power outlet panel doors closed after plugging in.
- ✓ Never attempt to fix an electric appliance if you haven't been trained to do so.
- ✓ Keep all electric tools clean, free of dirt, dust and grease.
- ✓ Use the proper personnel protective equipment when using electric power tools e.g. safety glassed or face shields, rubber soled shoes (avoid standing in water when using an electric appliance; use approved non-conductive rubber boots if absolutely essential).
- ✓ Don't place ladders (especially metal type) near any live electric wires.
- ✓ Don't remove any lock out or tags from electric sources. Only the instigator can remove these.
- ✓ Overloading of multi-point connectors from a single outlet should be avoided.
- ✓ Never accept cheap or sub standard wiring or equipment. All new permanent or temporary electric equipment and wiring should be approved by a qualified electrical engineer.

- ✓ For hazardous areas (e.g. confined spaces, tanks, flammable atmosphere, etc.) Only approved spark/flame proof cables and lighting should be used (Note: This applies to hand held torches also).
- ✓ Place adequate Number of CO2 fire extinguishers near electrical switch room.
- ✓ In case of fire in any electric circuit NEVER use water as a means ofextinguishing.
- ✓ Train personnel in the dangers of electric hazards. Persons trained in basic first-aid for electric shock should be available.
- ✓ Use lock out and tag out procedures when working on electric circuits coupled with permit to work system.
- ✓ Encourage electric hazard spotting among employees such as a cracked plug etc. and get them to report fault for remedial action.
- ✓ Non-electrical work to be carried out in the vicinity of exposed live parts should not start before the live parts have been safely covered to prevent access/contact.
- ✓ Danger notices should be placed.
- ✓ Action all electrical faults immediately.
- ✓ All dangerous occurrences and electrical accidents should be investigated.

8.6 Substances Safety

Federal and local regulations require procedures that ensure safe and authorized use of substances at any place of business, research or manufacturing. This Substances Safety standard details the following areas:

- ✓ Approval requirements for facilities storing hazardous substances
- ✓ Fire safety requirements
- ✓ Bulk storage tanks
- ✓ Underground storage tanks
- ✓ Storage layout and manifests
- ✓ Handling of dangerous goods
- ✓ Housekeeping
- ✓ Compressed gas cylinders
- ✓ Liquefied Petroleum Gas cylinders
- ✓ Protection against ionizing radiation
- ✓ Ozone depletion substances

General

The employer shall pay attention in reducing the risks

- ✓ To prevent contact with harmful substances
- ✓ Persons/workers handling chemicals have appropriate training and are provided with appropriate protective equipment
- ✓ Display signs near inflammable places
- ✓ Hazardous substances above the minimum quantities shall be stored in designated place
- ✓ Hazardous substances are stored away from sources of heat or ignition and protected from impact by physical barrier
- ✓ Hazardous substances are segregated according to compatibility/classification
- ✓ Hazardous substances store are properly placard with the HAZCHEM Code
- ✓ Food grade chemicals are separated from other chemicals
- ✓ Up to date inventory of stored chemicals and MSDS are available in the premises
- ✓ Spillages and leaking controls are provided as per EPSS TG 57
- ✓ Appropriate chemical spill kits are available for chemical spillages
- ✓ Emergency eye wash and fountain are provided
- ✓ "No smoking" signs or warning notices are displayed on and around DG storage facility

Approval requirements for facilities storing hazardous substances

- ✓ An occupier must obtain prior approval from the Environmental Protection and Safety Section, Dubai Municipality if the occupier proposes to keep dangerous goods in excess of the quantities specified in the below Table
- ✓ Any premises licensed to store the dangerous goods shall conform to the specifications detailed in DM Code
- ✓ Any modification to facility shall be approved by Dubai Civil Defense and Dubai Municipality

Fire safety requirements

- ✓ Obtain the prior approval from the Civil Defense for the fire protection measures to be provided at the premises.
- ✓ Implement the requirements before the dangerous goods are brought onto the premises

Bulk Storage Tanks

- ✓ All bulk above ground storage tanks shall be located in impervious bunded areas where the volume of the storage bund is not less than 110% of the largest storage tank contained within the bund.
- ✓ Hazardous materials in above the ground tanks shall not share common bunded areas unless the materials are of the same UN Classification.
- ✓ Bunded areas shall be of an impervious material.
- ✓ Bulk flammable liquid storage tanks shall not be located within 500m of residential areas or 200 m of labour accommodation.

Underground Storage Tanks

- ✓ All new underground storage tanks (including petroleum products) shall be equipped with a means of inspection for leaks and shall be of a double walled design where installed in sensitive areas.
- ✓ The installation of all underground tanks shall be under the supervision of an experienced engineer.

Storage Layout and Manifests

- ✓ A clear space should be left between all outside walls and the nearest packs and within block stacks to allow access for inspection, free movement of air and fire fighting.
- ✓ Material must be placed in such a way that the movement of forklift truck and other handling or emergency equipment is not obstructed.
- ✓ All aisles, gangways should be clearly defined by markings on the floor and kept free from obstructions.
- ✓ Stacking heights should not exceed 3 meters unless the racking system is used.
- ✓ The following written instructions must be readily available to all warehouse personnel:
 - Instructions for the safe and correct operations of any equipment and storage of materials.
 - Material Safety Data Sheets for all stored and transported products.
 - Hygiene and safety instructions and procedures.
 - Emergency instructions and procedures.
- ✓ Dangerous goods shall not be
 - Stored in warehouses along with food stuff.
 - Loaded and transported along with food stuff on the same vehicle.
- ✓ Hazardous materials shall be segregated in accordance with their UN Classification and requirements specified in the table detailed below:

Class	1.1	2.1	2.2	2.3	3.1	4.1	4.2	4.3	5.1	5.2	6.1	8
1.1		C	C	C	C	C	C	C	C	C	C	C
2.1	C			C	B	B	C	B	C	C	B	B
2.2	C			C	A	A	B	A	A	B	A	A
2.3	C	C	C		C	C	C	C	C	C	C	C
3.1	C	B	A	C		B	B	B	C	C	B	A
4.1	C	B	A	C	B		B	B	C	C	B	A
4.2	C	C	B	C	B	B		B	C	C	B	A
4.3	C	B	A	C	B	B	B		C	C	B	B
5.1	C	C	A	C	C	C	C	C		B	B	B
5.2	C	C	B	C	C	C	C	C	B		C	B
6.1	C	B	A	C	B	B	B	B	B	C		A
8	C	B	A	C	A	A	A	B	B	B	A	

Note: The separation or segregation of 2 different classes of hazardous materials is indicated by the code shown at the intersection of the vertical column corresponding to one class and the horizontal row corresponding to the other class.

- A. Must be separated by at least 3 m
- B. Must be separated by at least 5 m
- C. Must not be stored in the same room or space. Minimum separation of 10 m between storage areas

Handling of dangerous goods

The handling instructions including any special precautions to protect the personnel and environment must be followed strictly. In particular-

- ✓ Read the container label and MSDS before starting a job
- ✓ Keep your work area clean
- ✓ Use protective clothing and equipment
- ✓ Follow safety rules
- ✓ Use approved and labeled containers for storing and transporting hazardous materials
- ✓ Do not transfer dangerous goods into non- standard containers
- ✓ Follow manufacturer’s instructions when removing hazardous materials from containers
- ✓ Make sure there is enough ventilation
- ✓ Keep compressed gas, flammable and explosive materials away from heat

Housekeeping

- ✓ Good housekeeping shall be maintained to minimize damage, leakage and fire risks as well as to achieve safe and efficient operation.
- ✓ The following practices should be observed:
 - Stocks should be frequently inspected for leakage or mechanical damage and used on a first-in first out basis
 - Floors should be kept clean
 - The whole area should be free of rags, rubbish
 - Empty, combustible packing materials should be kept away from storage areas
 - All access to exits, emergency equipment etc. must be kept clear
 - All parts of the installation shall be kept in good repair

Compressed Gas Cylinders

- ✓ Compressed gas cylinders should be operated and handled only by personnel who have been instructed in proper procedures for their use and in the hazards involved.
- ✓ Personnel filling, handling, using compressed gas cylinders should be familiar with the properties of the contents, the hazards involved and precautionary and emergency measures to be taken for those hazards.

- ✓ All cylinders shall conform to International standards of construction and be maintained in good condition.
- ✓ The date of manufacture and hydrostatic test date shall be clearly and legibly marked upon the cylinders.
- ✓ All cylinders shall be tested, inspected and filled in accordance with International standards.
- ✓ The supplier shall ensure that the cylinders or containers failing in visual/physical examination or hydrostatic test are physically damaged to prevent re-use of cylinders by any person.
- ✓ The supplier shall take every precaution to ensure that the cylinder valve is in good condition.
- ✓ No cylinders shall be received without protective guards or caps for the valve assemblies.
- ✓ All the cylinders shall be protected against direct sunlight.
- ✓ Cylinders shall be always stored in upright position and secured.

Liquefied Petroleum Gas Cylinders

- ✓ All LPG cylinders shall be stored in a well-ventilated covered area and protected from direct sun light. LPG cylinders shall not be stored along with other incompatible gas cylinders.
- ✓ Fire extinguishers shall be provided and maintained in the storage area. For Minimum Requirements, refer to DMTG-65
- ✓ No combustible material such as plastic sheets, cardboard, paper, etc. shall be kept in the LPG storage area.
- ✓ No naked flame shall be allowed on the premises where LPG cylinders are stored.
- ✓ “No Smoking” sign shall be exhibited in the LPG store area and this must be followed strictly.
- ✓ “No smoking” sign shall be painted on trucks transporting LPG cylinders.
- ✓ The cylinders shall be transported in vertical position in the trucks as per the capacity prescribed. Larger cylinders shall be kept in position by tying ropes or chains to prevent from falling.

Protection against Ionizing Radiation

- ✓ Protection against Ionizing Radiation should be provided as per DM TG 66.
- ✓ Inventory of all stored radioactive materials should be up-to-date.
- ✓ Radioactive materials should be secured and appropriately stored. There should be placards with radiation signs and warning notices.

Ozone Depletion Substances

- ✓ Facility Manager shall:
 - Identify all equipment that uses CFC and HCFC.
 - Conduct periodic evaluation to ensure that leakage in equipment / facilities are rectified.
 - Implement the phase-out schedule of ozone depleting CFC equipment and facilities.
 - Maintain the inventory of types of CFCs and HCFCs used in air-conditioning, other equipment and facilities.
- ✓ Procurement shall ensure that CFC equipment is not purchased.

8.7 Fire Safety

Fire is identified as a considerable risk in any organization that has a large building infrastructure. This operational Standard helps

- ✓ to ensure comprehensive fire safety for persons and property
- ✓ to tackle fire safety problems quickly and effectively
- ✓ to ensure compliance with minimum legal obligations in relation to fire safety
- ✓ to train and inform employees on fire safety

Fire Prevention

- ✓ Buildings and floors should be clean, tidy and free from congestion
- ✓ Cigarette butts and wasted flammable material should be discarded only in designated receptacles
- ✓ Electrical and heat producing equipment should be installed as per manufacturer’s recommendations

- ✓ Electrical equipment such as portable appliances, transformers, electrical equipment in hazardous atmospheres, etc are maintained, inspected and tested at regular intervals.
- ✓ Heating equipment such as refrigerators are maintained clear from combustible material.
- ✓ Open flames or heat producing equipment such as halogen lamps or spot lights should be positioned at least one meter away from sprinkler heads.
- ✓ Extension cords in use should be protected with circuit breakers. No multi tap sockets should be used.
- ✓ Smoke generated from the activities should be disposed in a controlled manner.
- ✓ Ventilation ducts, machinery intakes/extracts should be maintained clear and clean from grease and debris.
- ✓ Pipelines carrying combustible material should be protected with earth bonding against static electricity.
- ✓ Hot-work should be performed only with permit to work.
- ✓ During hot work, combustible material should be protected from ignition sources. Suitable extinguishing equipment should be provided at the site.

Installations

- ✓ All enclosed parking facilities should be provided with mechanical ventilation.
- ✓ Fire detection systems should be installed throughout parking areas with combustion sensors. Enclosed parking structures located within or immediately below a building should be provided with automatic sprinkler system.
- ✓ Voids and cavities should be protected with detection and protection systems.
- ✓ IT installations such as servers, data centers should be protected with gaseous agent flooding systems.
- ✓ All laboratory units should be provided with fire protection appropriate to the fire hazard.
- ✓ The water level and the condition of water in the tank should be inspected monthly.
- ✓ The interior of the water tanks should be inspected every 3 years and associated equipment every 5 years for accuracy and freedom of movement.
- ✓ Structures used for ordinary purposes, whether commercial, industrial, institutional or residential should be lightning protected.
- ✓ All pump rooms should be kept clean and free from combustible material.
- ✓ Lightning protection: Structures below 75 ft (23 m) should be protected with Class I material and above with Class II materials.

Fire Detection and Alarm System

- ✓ Fire detection and alarm systems should be checked annually and records maintained.
- ✓ Detectors and call points should be inspected quarterly to verify that they are free of physical damage.
- ✓ All system faults and unwanted alarms should be recorded and rectified.
- ✓ Access to call points and fire cabinet should be free from obstruction.
- ✓ Fire panel should be in working condition, locked and the key available with the security.
- ✓ Steam, smoke and fog generating equipment should be kept away from smoke detectors.
- ✓ Kitchen/pantry should be protected with heat detectors.

Exits

- ✓ Appropriate & adequate means of exits should be provided.
- ✓ Door openings and the surrounding areas should be kept clear of anything that could obstruct or interfere with the free operation of the door.
- ✓ Doors should be self-closing or automatic closing with delay in the initiation of closing or reclosing of not more than 10 seconds.
- ✓ All fire doors should be kept unlocked, or secured by panic bolts or similar approved means.
- ✓ All exit doors and directional sign should be conspicuously located and adequately illuminated.
- ✓ Emergency exit doors should open outwards.
- ✓ Adequate barriers should be provided for exit doors that open directly onto vehicle movement areas.
- ✓ Exit doors that swing in both directions should be equipped with glass viewing panels.
- ✓ In the event of emergency, security should be able to open all door locks with the Master Key System.

Storage facilities

- ✓ Flammable liquids, combustible scrap, debris, and waste materials such as oily rags are stored in covered metal receptacles.
- ✓ “NO SMOKING” signs are posted in areas where flammable or combustible materials are used or stored.
- ✓ Chemical inventories are maintained within the prescribed capacities of the storage facility.
- ✓ Compressed and flammable gases storage areas should be:
 - Kept clear of dry vegetation and combustible materials for a minimum distance of 15 ft (4.6 m).
 - Provided with physical protection from vehicle damage.
- ✓ Compressed cylinders should be protected from direct heat or sun light.
- ✓ Material likely to cause spontaneous combustion should be stored in separate containments.
- ✓ Hazardous material should be stored according to their compatibility.
- ✓ Flammables and chemicals should be stored in designated places.
- ✓ Flammable materials should be stored away from heat producing agents and equipment.
- ✓ At least one meter clearance should be maintained below sprinkler heads and fire detectors.
- ✓ Suitable light fittings and other electrical equipment should be used in hazardous material store.
- ✓ In the storage areas sprinkler heads should be protected with metal guards.

Sprinkler Installations

- ✓ Sprinkler system should be inspected, serviced and maintained by an approved service company within the past 12 months.
- ✓ At least one meter radius around the sprinkler head should be free from obstruction.
- ✓ Full or partial protection should be installed for Sprinklers.
- ✓ Water supplies should be adequate and reliable.
- ✓ Main control valves and pumping stations should be secured from intruders.
- ✓ Every 5 years hydrostatic and flow tests should be conducted on standpipe sprinkler installations.

Fire Extinguishing Appliances

- ✓ Suitable fire extinguishers should be available at required areas.
- ✓ Access to fire extinguishers should be free from obstruction.
- ✓ Emergency Response Team members should be familiar with the locations and methods of handling fire extinguishers/ firefighting equipment available.
- ✓ Fire extinguishers should be protected from tampering.
- ✓ Fire fighting equipments in open spaces such as parking areas should be identifiable with visible signage and protected from direct sun light.
- ✓ A portable extinguisher should be provided next to roof top exit.
- ✓ At least 1 CO2 & 1 Dry Powder Extinguisher should be provided in all Fire Cabinets.
- ✓ Fire extinguishers and fire hose reels should be tested and last test date recorded on the appliance.
- ✓ At least one fire extinguisher should be available in all kitchen/pantries.
- ✓ Fire blanket should be available at LPG used kitchens/pantries.
- ✓ Fire extinguishers should be refilled /charged after their use.
- ✓ Extinguishers shall be hydrostatically tested as detailed below
 - Stored-pressure water & carbondioxide : 5yrs
- ✓ Dry chemical powder/ stored-pressure: 12yrs
- ✓ Minimum requirement of Extinguishers

Area	Minimum requirement
Offices & Stores for dry goods	One 13A water type per 200 m ² of floor area or part thereof
Package filling sheds: Class I and Class II liquids	Two foam type and two chemical type per 200 m ² of floor area or part thereof
Class III liquids	One foam type per 200 m ² of floor area or part thereof

Area	Minimum requirement
Pump houses for handling flammable or combustible liquids	One foam type and one 479B dry chemical type per 50 m ² of floor area or part thereof
Electrical switch house/room	One CO2 type or one dry chemical type 50 m ² of floor area or part thereof
Road loading and unloading points	One foam type and one dry chemical type per every two vehicle loading and unloading positions
Storage cabinet with not more than 250 liters of Class I and II liquids	Two 9KG dry chemical per every cabinet

Fire Response Plans

- ✓ Action plans should be formulated and available to all key personnel at conspicuous locations.
- ✓ Roles and responsibilities of the key personnel should be defined and instructed clearly.
- ✓ Evacuation instructions should be posted at conspicuous locations.
- ✓ Ensure employees are familiar with:
 - Sounds / modes of the emergency alarms (Evacuate upon hearing alarm for more than 30 seconds).
 - Exits / means of egress.
 - Assembly areas as per the evacuation plan.
- ✓ Employees should be aware of Emergency response team members.
- ✓ Assembly areas should be maintained free of all obstructions.
- ✓ Fire response plans should be tested at regular intervals and shortfalls addressed.

In the event of fire, employees/visitors/clients should:

- ✓ Stop working and exit in an orderly manner through the safest and nearest exit access passageways, interior exit stairways and exterior exit stairways.
- ✓ Assemble at the designated assembly points outside the building and wait for further instructions.
- ✓ Do not panic / scream and create chaos / commotion during evacuation.
- ✓ Do not indulge in searching for belongings / personal effects on the floor during emergency and before exiting.
- ✓ Do not attempt to exit through doors & passageways that are not exits.
- ✓ Do not take refuge in toilets and in places that are not designated as refuge locations during an emergency.
- ✓ Do not overcrowd during evacuation.
- ✓ Do not attempt to remove your vehicle from the underground parking of the building, it may endanger your life.
- ✓ In the event of fire, if the room is filled with smoke, lie down on the floor and crawl towards the exits. If possible cover your nose with a wet cloth.

8.8 Event Management

Event risk management requires the careful identification of potential mishaps, the evaluation of risks associated with the event, and the use of tools to eliminate, control and manage the risks appropriately.

In order to provide a healthy and safe environment during any event, this HSE Standard shall be used as a starting point to manage the event safely.

Required Documentation

- ✓ Event Setup
 - Generic risk assessments of the event and specific risk assessment for critical tasks such as Pyrotechnics, use of mobile cranes, suspended structures, etc.
 - Copy of valid test certificate for lifting equipments / tools / appliances used.
 - Copy of valid test certificates for pressure vessels eg air compressors.
- ✓ Stages & Structures /Scaffolds
 - Structural Integrity Certificate, signed by an authorized person (DM approved).

- Flame retardant certificate for tents erected.
- Copy of valid test certificates for materials used in construction.
- ✓ Food & Beverage
 - Approval from licensed authorities to do outdoor catering / services.
 - Approval for the specific event.
 - No Objection' letter from the venue owner and written approval from Dubai Police to serve alcoholic beverages.
- ✓ Pyrotechnics
 - Copy of valid license of the performer / operator
 - Approvals from the Department Civil Defense and from Dubai Police
 - Task specific risk assessment
- ✓ Floating Balloons (Big)
 - Approval from Dubai Civil Aviation Authority
- ✓ Emergency Preparedness
 - Emergency plan for the venue with all exits clearly marked and identified

Physical hazards	Requirements
Slips & trips	Cables/hoses shall be protected.
Falls	Protect openings that pose fall risk of above 2 meters.
Cuts/Bruises	All sharp edges shall be protected.
Striking	Objects protruding into walkways shall protected.
Burns	All hot surfaces shall be protected and displayed with adequate signage.

Equipment	Requirements
Scaffolding/ stage	<ul style="list-style-type: none"> • To be erected by DM approved competent persons. • Structural integrity must be certified by Dubai Municipality approved person. • Certificate must clearly identify the maximum safe wind speed that the structure can withstand in the proposed operational mode/ modes of the structure. • Planks of minimum 20mm thickness s shall be provided as base plates for standards • Steel plate shall be used as base plate for stage/equipment outriggers
Tents	<ul style="list-style-type: none"> • Flame retardant certificate. • Tents shall be erected with firm structure. • No naked flames/BBQ/open electrical joints are allowed in the tents. • No smoking is allowed inside the tents. • Adequate fire fighting measures in place (Extinguishers etc).
Lighting	<ul style="list-style-type: none"> • All ingress, egress and venue areas shall be illuminated by a minimum of 40 lux lighting. • Backup lighting arrangement for emergency exits / walkways (in case of emergency or power failure). • Lights that generate heat shall to be kept away from flammable materials (heat generated from light might cause ignition). • Cables and connections must be in good condition (w/o leaks, damages etc). • All equipments must be of approved international standards. • Connectors must be designed for outdoor purposes. • Tower lights shall be cordoned off from unauthorized access. • Provide extinguishers near lights energized with battery/generator.
Aerial platforms/ forklifts	<ul style="list-style-type: none"> • Possess DM approved valid test certificate. • Only authorized personnel to operate. • Not to exceed the Safe Working Load (SWL) of the equipment.

Equipment	Requirements
	<ul style="list-style-type: none"> • Appropriate PPE to be donned during operation. • Do not exceed the maximum number of persons allowed to be on the platform.
Cranes	<ul style="list-style-type: none"> • Possess a valid test certificate. • Only authorized personnel to operate. • Not to exceed the Safe Working Load (SWL) of the equipment. • Appropriate PPE to be donned during operation. • Outriggers to be extended and placed in a hard surface (in soft land provide adequate steel base plates). • Appropriate rigging methods to be adopted. • Do not work / walk under the suspended loads. • Cordon off the affected lifting zone to prevent/restrict others from accessing those areas. • Only approved / tested lifting gears to be used for lifting. • A physical inspection of the lifting gear must be carried out prior to its usage, to ensure it's in good condition.
Lifting gear	<ul style="list-style-type: none"> • Possess DM approved valid test certificate. • Only authorized personnel to operate. • Not to exceed the Safe Working Load (SWL) of the equipment. • Appropriate rigging methods to be adopted.
Hand tools	<ul style="list-style-type: none"> • Must be of good condition (e.g.: drilling machines, grinders etc). • Portable electrical tools must be properly grounded or double insulated.
Electrical	<ul style="list-style-type: none"> • All panels/DBs should be protected with circuit breakers. • Electrical hazard warning signs must be placed on all panels. • Switchboards must be in weatherproof enclosures with no access to live parts. • Switchboards must have doors that can be fully closed and locked. • All cables must be located in a secure place that is only accessible to authorized persons.
Cabling	<ul style="list-style-type: none"> • Cables must be free from damages & leaks. • It should be protected and covered firmly to prevent slips, trips and rain. • Connectors must be designed for outdoor purposes. • Standard plug and socket should be used to connect electrical equipment. • All electrical outlets should be protected by residual current devices (RCDs). • Joints and connections should not be accessible to and by patrons. • Double adaptors or piggy back plugs are not permitted.
Gas bottles	<ul style="list-style-type: none"> • Hoses/connectors/joints should be in good condition and free from leaks. • Must be secured firmly to prevent them from falling / toppling. • Should be kept away from open flames / heat sources. • No smoking within the vicinity. • Shall be stored upright. • Shall be caged as per Dubai Municipality requirements. • Extinguishers must be provided nearby. • Restrict access of patrons to the storage areas.
Refrigerators /Vending machines	<ul style="list-style-type: none"> • Must be kept w/o obstructing the access ways. • Electrical connections must be of approved standards (for outdoor). • No damage & leaks on the cables and connectors. • There should be a standby fire extinguisher. • There should be adequate securing arrangement / placement to prevent toppling.

Equipment	Requirements
Compressors	<ul style="list-style-type: none"> • Tested and certified by DM approved competent person. • Extinguisher(s) on standby. • Drip trays or other means to contain /prevent spillage. • Cordoned off to prevent unauthorized access.
Generators	<ul style="list-style-type: none"> • Generators should only be placed in designated areas - secured and grounded accordingly. • Each generator must be connected to its own earth electrode driven into the ground. • All distribution boards and panels should be kept closed and locked all the time, while unattended. • Foam & DCP/CO2 extinguishers should be on stand by. • Should be cordoned off to prevent unauthorized access
Gas stoves	<ul style="list-style-type: none"> • Hoses and connectors should be in good condition (w/o damage or leaks). • Should be kept away from flammable materials (Gas cylinders, Boxes etc). • Restrict access of patrons. • Extinguishers should be on standby.
Floating Balloons (big)	<ul style="list-style-type: none"> • Approval to be obtained from Dubai Civil Aviation Authority. • Separate Risk Assessment to be carried out.
Barricades / partitions	<ul style="list-style-type: none"> • Barriers and the ground beneath them will always be subject to crowd loading and should therefore be provided to withstand right angle and parallel loads that match probable pressures. • The layout of barriers must address all factors including the venue, the size and nature of patrons, artificial breaks created within the audience and the performer's anticipated behavior, among others. • Any internal barriers/barricades should have collapsible emergency exits.
Seats	<ul style="list-style-type: none"> • The minimum distance between rows of seats should be 300 mm. • Loose seats on flat ground must be secured in groups of no less than 4. • Aisles are required on both sides of every row of seats.

Exposure	Requirements
Food poisoning	<ul style="list-style-type: none"> • F&B providers shall have valid license to do outdoor service from the authorities. • Food should only be made available in unbreakable containers (glass and crockery are not permitted). • Food and beverage providers must comply with Dubai Municipality's Outdoor Catering Hygiene Guidelines.
Intoxication	<ul style="list-style-type: none"> • 'No Objection' letter from the venue owner and written approval from Dubai Police should be provided for serving alcoholic beverages. • No serving of alcohol to anyone intoxicated. • No serving alcohol beyond 23.30hrs. • Signage on age limitation to be displayed. • Underage (below 21) serving restrictions to be strictly followed.
Diesel	<ul style="list-style-type: none"> • Should be cordoned off and stored away from flammable/heat source. • Foam extinguishers to be on standby. • Spill prevention / containment arrangements shall be available on-site. • Warning signs to be provided.
Pyrotechnics	<ul style="list-style-type: none"> • Performer shall possess a valid license. • Approvals to be obtained from the Department of Civil Defense and from Dubai Police.

Exposure	Requirements
	<ul style="list-style-type: none"> Separate risk assessment to be conducted and establish identified control measures.
Noise	<ul style="list-style-type: none"> Noise from any form of entertainment must comply with the Article 75, of Local Order No. 61/91. Amplifier/speakers shall be turned off by 00.00hrs.

Environment	Requirements
Wind	<ul style="list-style-type: none"> Adequate securing arrangements for equipments, poles, structure etc should clearly identify the maximum safe wind speed that the structure can withstand in the proposed operational mode/ modes of the structure.
Rain/hails	<ul style="list-style-type: none"> Electrical equipments must be protected from water ingress.
Working heights	<ul style="list-style-type: none"> Adequate railing should be provided to the platform where there is possibility for a fall of more than 2 meters. Persons working at height shall use and anchor full body harness. Measures to be in place to prevent items falling from height.
General waste	<ul style="list-style-type: none"> Adequate bins to be provided at various points. Regular emptying of bins during the event.
Hazardous waste	<ul style="list-style-type: none"> Separate receptacles shall be provided for hazardous waste. Hazardous wastes (Paint drums, aerosol cans etc) must be disposed separately (not to be mixed with general waste).
Loose material	<ul style="list-style-type: none"> No loose materials at high platforms. All such materials must be properly secured. No materials must be placed in the walkways.
Aisles and walkways	<ul style="list-style-type: none"> Not less than 1 meter. Should lead to exits. No dead ends. Well lit. No blocks / hindrances.

Systems	Requirements
Electrical	<ul style="list-style-type: none"> All to be of approved international standards. Meets the outdoor usage specification. Fire fighting means to be provided. Properly grounded / double insulated. To be serviced / repaired / installed by authorized technicians only. No leaks, damage to the cables and panels. Adequate warning signs on the panels. Generators properly grounded.
Fire Fighting	<ul style="list-style-type: none"> Adequate fire fighting measures should be in place (Extinguishers etc). Fire protection equipment should be unobstructed. There should be sufficient number of fire extinguishers. Flame retardant materials to be used on stages and tents. Civil defense to be on standby for Pyrotechnics / laser / fire works.
First Aid	<ul style="list-style-type: none"> Ambulance on standby. First Aiders & First Aid kits.
Escape routes	<ul style="list-style-type: none"> Clearly marked, visible (illuminated) from all areas of the venue.

Systems	Requirements
	<ul style="list-style-type: none"> • Adequate number of exits (a minimum of 8 Nos. for full DMC Amphitheatre). • Adequate directional signs. • Not to be obstructed at any point of time. • Adequate lighting. • Emergency plan to be prepared and submitted.

8.9 Resources Conservation

Resources conservation is the practice of decreasing the quantity of resources used. It may be achieved through efficient use or by reduced consumption or effective reuse. Resource conservation may result in increase of financial capital, environmental value and human comfort. Following areas are covered in this standard

- ✓ HVAC Systems
- ✓ Electricity
- ✓ Water
- ✓ Paper
- ✓ Diesel

General

- ✓ Utility costs and consumption shall be constantly tabulated, reviewed and monitored
- ✓ Follow popular 3R's: Reduce, Reuse & Recycle
- ✓ Reduce:
 - Try to minimize the consumption of water, electricity, paper and other natural resources.
 - Reducing the wastes also like producing new material.
- ✓ Reuse:
 - Think twice before disposing any material, item or equipment. With some modifications it may be used for another purpose.
 - The reverse side of photocopied paper can be used as general workbook.
 - Empty containers, barrels can be used as waste bins or for material storage.
- ✓ Recycle:
 - Wherever possible use recycled products, which generates a host of environmental, financial and social benefits.

Heating, Ventilation and Air Conditioning (HVAC) Systems

- ✓ HVAC systems should be operated in the most economical way possible.
- ✓ Business units should monitor and adjust the HVAC control system time clocks to compensate for changes in the weather.
- ✓ When the temperature is expected to change significantly over a weekend, HVAC systems should be adjusted to provide proper temperatures on Sunday morning. This adjustment is not required in buildings that have automatic optimization time control systems.
- ✓ Clean or change air filters on your air heating system in the winter and on air conditioning units in the summer so that they work more efficiently.
- ✓ Every opportunity to decrease HVAC system operating times should be considered by the business unit.

Electricity

- ✓ SWITCH OFF lighting in unoccupied spaces (after working hours, meeting rooms) or install occupancy sensors.
- ✓ Power save mode in equipments (e.g., computers, photocopying machine etc) shall be used when not in use.(turn off the monitor after 5 minutes and the hard disk after 15 minutes).

- ✓ On the way down, use the staircase instead of elevators.
- ✓ Set your thermostat two degrees warmer in the summer to save energy.
- ✓ All equipment shall be maintained periodically to ensure optimal performance.
- ✓ It shall be the responsibility of the last person leaving a particular section of the office at the end of the day to ensure that all office equipment (excluding fax machines) and lights are switched off.
- ✓ All split or window air conditioners shall be switched off when not required.
- ✓ All equipment shall be maintained periodically to ensure optimal performance.

Water

- ✓ Avoid over watering plants and landscape. Wherever possible use TSE (Treated Sewage Effluent) for landscape.
- ✓ Optimize landscape irrigation timing.
- ✓ All necessary measures are to be taken to minimize water consumption. All reasonable and practicable engineering controls are to be adopted, such as
 - Installing water savers in all wash basin taps and pantry sinks.
 - Installing displacement bags in WC flush tanks.
 - Installing pressure reducer in Shatter sprays.
 - Repair leaking faucets as soon as it's noticed.
- ✓ All water taps need to be shut off immediately after use.
- ✓ Create awareness amongst employees not to waste water by regular briefings.

Paper

- ✓ All employees shall minimize the use of paper by:
 - printing only when necessary.
 - double-sided printing of paper where possible.
 - Use electronic means of communicating information.
- ✓ Reusable A4 paper (only one side printed) shall be collected for reuse at designated locations.
- ✓ All office equipment using paper should, where possible:
 - use reusable paper.
 - use configurations to allow double sided photocopying.
- ✓ Staff shall minimize the generation of waste paper by:
 - Wherever possible, sharing documents stored in a commonly accessible location, e.g. Portals, common filing, department or company directories in the servers, etc.
 - Custodians shall keep and maintain records on paper consumption.

Housekeeping

- ✓ Close drapes and windows during sunny summer days and after sunset in cooler weather.
- ✓ Stop air leaks around windows and doors with caulk or weather stripping. Air leaks can rob your house of heat in the winter or make it too humid in the summer. As much as 40 percent of heating and cooling costs can be due to air leaks.

8.10 Air Management

Air pollution is a major environmental and health problem affecting people and communities. Increasing amounts of potentially harmful gases and particles are being emitted into the atmosphere from various activities resulting in damage to human health and the environment.

This standard covers areas of Indoor Air quality, workplace emissions and stationary emissions.

Indoor air quality

- ✓ Clean Air: As far as possible minimize temperature changes and eliminate excessive humidity. Closed and semi-closed public places shall have sufficient means of ventilation proportionate to the size and capacity of the place and type of activity to ensure the circulation, cleanliness and adequate temperature of the air.
- ✓ Variable air-volume of HVAC systems must be “balanced” periodically;
- ✓ Smoking shall also be prohibited in common areas closed/semi closed places and elevators.
- ✓ Smoking shall be allowed 25 feet away from the entry and exit ways.
- ✓ Pesticide application inside the building shall be performed during off hours and contaminants cleared through ventilation.
- ✓ Control microbial contamination such as fungi, spores, mold and mildew problems. They can become an airborne contamination problem due to outside sources or water leaks/standing water within the building or in the HVAC system.
- ✓ Maintenance plans for HVAC system particularly filters, cooling coils, drip pans, and ductwork shall be in place and followed.
- ✓ Implement controls for specific contaminants, such as outdoor air contaminants, which may enter the building through the HVAC supply air system or through other means.

Fugitive (Workplace) emissions

- ✓ Ensure that air pollutants do not exceed the acceptable permissible limits.
- ✓ Do not use machines, engines or vehicles producing exhaust gases that exceed specified limits.
- ✓ Ensure adequate ventilation in the work place and take necessary precautions and measures to prevent the leakage or emission of air pollutants unless it is within the permissible limits no matter whether the leakage is resulting from the normal practices of these establishments or due to malfunction in the equipments.
- ✓ If any leak persists, provide necessary means of protection to the workers in accordance with conditions of safety and occupational health including choice of machines, equipments and suitable types of fuel, taking into consideration the dose & time of exposure to such pollutants.
- ✓ Emissions standard at work place for dust and grit shall not exceed 0.050g/m3.

Stationary Emissions

This standard applies to waste gases, fumes and dusts generated from the processes which are collected and discharged to the atmosphere through vertical chimneys or vents. Such chimneys or vents shall comply with DM ETG 29.

- ✓ Ensure that air pollutants do not exceed the acceptable permissible limits.
- ✓ Work which may cause pollution shall not be operated unless it receives a letter of approval from Dubai Municipality.
- ✓ Airborne wastes shall be collected by the best practicable means and discharged to atmosphere.
- ✓ All waste discharges shall have an unimpeded vertical discharge. Any weather protection cowls shall be designed so that they do not obstruct the vertical free flow of gases, fumes or dust. Installation of conical weather caps and the like shall be avoided.
- ✓ All chimneys shall have a minimum height of 1.5 meters above the highest point of any structure within 5 building heights of the chimney. For large volumes or significant emissions or where there is residential or public use land within 100 meters, high chimneys may be necessary. Consult with the Environmental Protection and Safety Section for information.
- ✓ Dark smoke shall not be emitted from a chimney of any building.
- ✓ All gaseous waste, fumes or dust discharges shall have a minimum exit velocity of at least 8 m/sec. Moisture must not condense in the chimney during the colder months. For high sulfur (> 1%) fuels, chimneys may have to be insulated to avoid acid condensation.
- ✓ New chimneys should not be constructed without the approval of the Environmental Protection and Safety Section.

- ✓ Any source emitting combustion gases and particles more than 100 Kgs. per day of nitrogen oxides, sulfur dioxide or particles shall determine the chimney height on the basis of dispersion calculation to satisfy the air quality objectives at ground level.
- ✓ Any source emitting toxic and hazardous substances as classified by the Environmental Protection & Safety section shall be provided with control technologies as approved by the Environmental Protection and Safety section.
- ✓ In built up areas such as downtown, emission sources must be located away from and above public access areas and clear of any air conditioning intakes, vents or windows that can be opened.
- ✓ All Proponents and/or Owners of emission sources are required to carry out air quality mathematical modeling study. The scope of study varies according to source and on case basis.

8.11 Water Management

Water management is planning, developing, distributing, managing, and optimum use of water resources under defined water polices and regulations. This standard outlines the following areas:

- ✓ Drinking water
- ✓ Waste water
- ✓ Treated sewage effluent (TSE)
- ✓ Legionella

Drinking water:

- ✓ Employer must provide adequate potable water to all employees.
- ✓ Employer shall be responsible for the cleanliness and safety of the drinking water tanks in the Building and shall be responsible also for verifying the efficiency of all the water distribution points in the same.
- ✓ Potable water tanks shall be cleaned once in year and water sample after the cleaning shall meet the applicable standards.

Wastewater

Waste minimization plan should consider

- ✓ Means of avoiding excess water use / waste water generation.
- ✓ Means of reducing the strength of contaminant entering the waste stream.
- ✓ Means of water reuse / recycling.

Domestic waste and the industrial or trade waste shall not be combined into a common effluent holding tank to permit individual sampling of each waste.

Waste water treatment

All sewage effluents shall be treated to tertiary standard, sand filtered and chlorinated.

Wastewater discharge:

- ✓ Discharge of waste water to land in any reuse scheme or discharge of sludge or its use to condition soil is prohibited.
- ✓ Wastewater shall be treated to comply with the effluent standard & the physical, chemical, biological parameters shall not exceed the minimum limits as specified in the executive regulations.
- ✓ Wastewater from public, industrial or other premises shall not be discharged in the public sewerage without a permit form DM.

Treated Sewage effluent (TSE)

- ✓ As far as possible TSE shall be used for irrigation.
- ✓ All areas where recycled water is used shall be sign posted to alert the public not to drink the water
- ✓ Where ever possible the irrigation of recycled water shall be kept at least 50 Meters from public areas and roads or alternatively irrigation shall be timed to avoid periods of public use.

- ✓ Staff involved in the application of recycled water shall be subject to regular health evaluation.

Legionella

Legionnaires' disease is a potentially fatal form of pneumonia which can affect anybody, but which principally affects those who are susceptible because of age, illness, immuno-suppression, smoking etc.

The agent that causes Legionnaires' disease is a bacterium called **Legionella pneumophila**. People catch Legionnaires' disease by inhaling small droplets of water suspended in the air, which contain the bacteria.

Legionella can spread in the following areas

- ✓ a suitable temperature for growth, 20°C to 45°C
- ✓ Water systems incorporating a cooling tower.
- ✓ Water systems incorporating an evaporative condenser.
- ✓ Hot water services, except where the volume of hot water in the system does not exceed 300 liters.
- ✓ Humidifiers and air washers which create a spray of water droplets and in which the water temperature is likely to exceed 20°C.

Legionella Control

Measures for the prevention of disease from Ventilation Systems include:

- ✓ Ensuring they are kept free from rust, lime scale organic matters.
- ✓ Above or below optimum temperatures.
- ✓ Avoidance of contamination and "drift" from water cooling towers.
- ✓ The regular changing of filters and the cleaning of spray heads.
- ✓ Surfaces should be kept free of micro bacterial contamination.
- ✓ If chemical treatments of cooling towers become necessary, e.g. where cooling towers are open to air with water running at temperatures between 20°C and 55°C, a rotation of chemicals should be used to prevent the development of resistant organisms.
- ✓ All chemical treatments should be used under the direction and monitoring of a professional biologist.

Monitoring

Water sample should be tested with a frequency of not less than Quarterly for parameters,

- ✓ Aerobic counts and
- ✓ Legionella bacteria

8.12 Soil Management

Soil management involves strategies for the prevention of soil contamination. Soil contamination (soil pollution) is caused by the presence of human-made chemicals or other alteration in the natural soil environment. This type of contamination typically arises from the rupture of underground storage tanks, application of pesticides, percolation of contaminated surface water to subsurface strata, oil and fuel dumping, leaching of wastes from landfills or direct discharge of industrial wastes to the soil.

Soil contaminants can have significant deleterious consequences for ecosystems. There are radical soil chemistry changes which can arise from the presence of many hazardous chemicals even at low concentration.

Standard

- ✓ It is prohibited to undertake any activity contributing directly or indirectly, to damaging, disturbing the natural properties or polluting the soil in any way that may affect its productivity.
- ✓ It is prohibited to undertake any activity that damages the quantity or quality of flora in any area, thus causing desertification or deformation of the natural environment and it is prohibited to cut, uproot or cause damage to any tree, shrub or grass without authorization from the competent authority.

- ✓ Disposal of hazardous wastes and medical wastes shall be undertaken in accordance with the conditions and criteria specified by Dubai Municipality.
- ✓ No public or private party or qualified or unqualified persons are allowed to import or bring, bury or dispose hazardous wastes in any form in the environment.
- ✓ All waste generated from any manufacturing or trade activities except domestic waste shall be considered as trade or industrial waste. This includes all wastes generated from the manufacturing process and operations, laboratories, boilers, pollution control and treatment operations, trade activities etc.
- ✓ As a minimum level of treatment, industrial waste must be neutralized to pH 6-9, screened and / or settled to remove suspended and solids or those that can settle.
- ✓ Industrial or trade waste shall not be combined into a common effluent holding tank to permit individual sampling of each waste.
- ✓ Periodic preventive maintenance is required to remove the irreducible solids which settle and gradually fill the tank, reducing its efficiency.
- ✓ All storage tanks, drum stores, loading pads and areas, and work locations where dangerous goods are used and transferred must be bunded. These activities must never take place on open ground or on interlocking paving.
- ✓ The following practices must be observed to reduce land pollution:
 - Proper garbage disposal
 - Recycle garbage
 - Reduce use of herbicides and pesticides
 - Avoid over packaged items
 - Efficient utilization of resources and reducing wastage
- ✓ When installing or replacing oil storage tanks, the following must be considered:
 - Places where spilt oil could enter open drains such as loose fitting manhole covers. It can also soak into the ground and pollute groundwater.
- ✓ Control disposal of waste water, sewage sludge, waste, exhaustive gases, oils into the soil which results in soil pollution.
- ✓ Maintaining open spaces with high quality undisturbed soils have a direct impact on biodiversity, quality of landscape and health conditions of population.

Clean-up of Contaminated Land

- ✓ Polluted land must be cleaned up to background level of the contaminants in question or to such a level where any risk to the beneficial use of that land becomes insignificant and as agreed to by Dubai Municipality clean- up process DM ETG 54.

8.13 Noise Management

Noise emitted from production, processing, servicing, construction, demolition and entertainment activities pose noise induced deafness and disturbance to adjacent residential premises. To minimize noise impact, it's very much essential to control and restrict noise emission from its source.

- ✓ Noise induced hearing loss is the damage caused to the internal components of the ear, resulting in a reduced ability to hear sounds in a specific range.
- ✓ An injury caused by noise is not generally instantaneous, except in the event of an explosion, and creeps up on you. Therefore many workers do not realize that they are injured until it is too late.
- ✓ The effect of noise is related to the level or loudness and the time spent exposed. (Two minutes spent exposed to noise of 114 decibels (dB) can cause the same amount of damage as 8 hours exposure to noise of 85 dB(A).
- ✓ This standard outlines noise management requirements within TECOM areas.

Noise exposure

- ✓ As far as practicable noise emission from production or service or other activities specially when operating machines, equipments, warning devices and loud-speakers shall be controlled within permissible limits for noise.
- ✓ Adopt "ESCAPE" hierarchy to remove or restrict the noise levels use:
 - E: Eliminate - the process or equipment generating noise.
 - S: Substitute – noisy process or equipment with less noisy equipment.
 - C: Control: to minimize noise at source, isolate the noisy equipment.
 - A: Administrative controls – to minimize the exposure, rotate the working hours.
 - PE: Protective Equipment – provides hearing protection equipment to the exposed employees.
- ✓ Wherever the noise levels are higher than 87 decibels, the employer shall provide appropriate hearing protection equipment.
- ✓ Employees exposed to high noise levels should be educated and trained in the use of hearing protection, the effects of noise and the consequences of noise induced hearing loss.
- ✓ Business unit shall conduct initial and periodical hearing test for the employees exposed to noise above 87 decibels.

Entertainment Noise

Any noise should not interfere with the peace, comfort and convenience of any person. This guideline sets out the control of noise from entertainment:

- ✓ Noise from any of entertainment must comply with the Article 75, of the Local Order No. 61/91. The noise level when measured outside the boundary of the premises should not exceed 55 dB (A) during the period 7:00 A.M. - 8:00 P.M. and 45 dB (A) during the period 8:00 P.M. - 7:00 A.M.
- ✓ Popular celebration on public holidays or official days shall be exempt from the requirements of the above mentioned article during such periods only.
- ✓ Entertainment premises must not be located adjacent to any residential premises.
- ✓ Entertainment premises shall adopt the best effective means to contain the loud noise inside. Proper sound proofing of the building shall be done to eliminate migration of loud noise.
- ✓ Entertainment premises shall provide customers parking area away from adjacent residential premises. The car park area must not be closer than 50 meters from the residential premises.
- ✓ Private celebrations e.g. parties or gatherings which are held in open space or courts shall not be allowed after 10:00 P.M. unless approved by the Environmental Protection and Safety Section. Amplified music or speech shall cover only the entire perimeter of the court.
- ✓ A sound level limiting electronic circuit should be incorporated in the amplifier to control the signal amplitude to a fixed level regardless of the loudness of music or speech. Once the control had been set to correct position, it should be secured with fixed metal plates.
- ✓ The loudspeaker system shall be placed in such a manner that the device does not point towards any wall which contains an un-insulated window or entrance to the premises.
- ✓ Noise from any entertainment premises must not be audible inside a residential dwelling during normal sleeping hours e.g. 10:00 P.M. - 6:00 A.M.

Construction/Demolition Noise

Construction or demolition activities even if only for relatively short periods generate high levels of noise that can cause disturbances to adjacent residential premises.

- ✓ Any noise should not interfere with the peace, comfort and convenience of any person.
- ✓ Noise from any construction or demolition site must comply with the requirements of Article 42, of Administrative Order No. 211/91. Continuous noise levels should not exceed 55 dB (A) during the period 7:00 A.M - 8:00 P.M and 45 dB (A) during the period 8:00 P.M - 7:00 A.M.
- ✓ Site engineers must consider noise reduction in the site layout, planning and execution phases.
- ✓ As construction noise is predominantly impulsive in nature, the following guidelines are specifically aimed to reduce noise from construction and demolition activities.

- ✓ Access roads to the site should be positioned such that vehicular movements cause minimum disturbances to residential buildings.
- ✓ Heavy vehicle movements to and from the site must only be made during the scheduled normal working hours unless approval has been granted by the Environmental Protection and Safety Section.
- ✓ Where possible, any heavy equipment with an internal combustion engine should not be left standing with its engine operating in a street adjacent to a residential area
- ✓ Work must not extend beyond the hours as detailed below without the prior approval of Dubai Municipality, EPSS/Zoning authority. In cases where work is approved to be extended beyond the normal working hours specified below and the noise of this activity will impact in a residential area, then the affected premises should be notified of the intended work, its duration and times of occurrence.
- ✓ Normal working hours
 - 6:00 A.M to 8:00 P.M - Saturday to Thursday
 - 7:00 A.M to 8:00 P.M - Friday and Public Holiday
- ✓ Work that creates the most noise should be scheduled to minimize the impact on residential premises.
- ✓ Construction materials shall be properly handled so that the minimum noise is generated. Materials should be handled gently and if possible cushions should be provided to reduce impact noise.
- ✓ In noise sensitive areas acoustic treatment shall be provided to equipment and other noise sources where practicable.

8.14. Waste Management

Waste management is the collection, transport, processing, recycling or disposal, and monitoring of waste materials. The term usually relates to materials produced by human activity, and is generally undertaken to reduce their effect on health, the environment or aesthetics. Waste management is also carried out to recover resources from it. Waste management can involve solid, liquid, gaseous or radioactive substances, with different methods and fields of expertise for each. This standard details the following:

- ✓ General waste
- ✓ Recyclable waste
- ✓ Hazardous waste
- ✓ Medical and Laboratory waste
- ✓ Waste from Laboratories in Schools, Colleges and Universities
- ✓ E-waste

Definitions

- ✓ **General Waste**
Is the solid non-hazardous waste generated due to domestic, trade, horticulture and industrial activities, and the inert solid waste (such as construction and demolition waste) that can be disposed of in the General Waste Landfills and any other waste classified so by the Environment Department of DM.
- ✓ **Recyclable Waste**
Recyclable materials include many kinds of glass, paper, metal, plastic, textiles, electronics and wood.
- ✓ **Hazardous Waste (Trade Waste)**
Is the waste unsuitable for direct disposal into the Environment or sewer system or by traditional landfill, and any waste deemed by the Municipality to pose a risk to the Environment or Public Health due to production operation, the existence of hazardous components or chemical or physical properties.
- ✓ **Medical/Laboratory Waste**
- ✓ **E-waste**
The direct disposal of electrical and electronic equipment such as old computers, batteries, mobile phones, cables, PCB (Printed Circuit Board) is banned due to the toxic contents of certain components.

General

- ✓ Import, Export and Disposal of waste into sites other than the sites designated by Environment Department of DM for that type of waste is prohibited.
- ✓ Import of any waste into the Emirate of Dubai for final disposal is also prohibited.
- ✓ Waste Audits are required for major industries to ensure compliance with the provisions of Local Order 61/199.
- ✓ Waste minimization techniques such as (Reduce, Reuse, Recycle) is highly recommended.
- ✓ Waste must be segregated as Solid waste & Hazardous waste.
- ✓ Waste should be stored properly, well ventilated and free from fire hazard.
- ✓ Wastes shall be transported and handled only by Dubai Municipality approved agencies.
- ✓ To discharge waste to sewer, land and marine environment DM permit is mandatory.
- ✓ The FM Service provider shall provide and ensure that all containers used to contain hazardous waste are properly labeled.
- ✓ There shall be no spillage of hazardous waste during handling and transportation.
- ✓ The FM Service provider and campus manager shall make periodic random on-site inspection respectively to ensure proper disposal of waste by the respective Waste Collector.
- ✓ No waste shall be placed within TECOM facilities in a position that can affect the safety and health of the employee or impact on the environment.

Maintenance of Septic Tanks & Soak ways

- No industrial process wastes shall be discharged to septic tanks.
- All septic tanks shall be fitted with an elevated vent pipe extending at least 3 meters above the closest structure.

General Waste

- ✓ All general wastes are to be stored in designated bins provided at respective facilities.
- ✓ Waste collected in the bins shall be transferred and disposed into facility disposal skips/molak bins provided by the service provider.
- ✓ Employees and occupants of TECOM owned facilities shall not mix hazardous waste with general waste.
- ✓ Respective entity HSEC to make periodic random on-site inspections to ensure proper disposal of waste by contracted licensed waste collector.
- ✓ Food wastes shall be disposed only in closed containers.

Recyclable Waste

- ✓ Entity shall provide adequate bins to collect recyclable wastes.
- ✓ TECOM employees shall dispose the recyclable wastes in the provided bins.
- ✓ Ensure not to mix up general waste with recyclable waste.
- ✓ Respective entity HSEC to make periodic random on-site inspections to ensure proper disposal of waste by contracted licensed waste collector.
- ✓ Waste collected in the bins shall be transferred to the service provider skip/bin.
- ✓ Every month service provider shall provide the quantities of general and recyclable wastes to the respective entity.

Hazardous Waste

- ✓ Initial application to be made with DM for creation of ID & password for Hazardous waste disposal.
- ✓ Waste Characterization: Waste generator shall get the waste analyzed at any approved laboratory. Waste sample shall be collected by the Approved Laboratory on-site only.
- ✓ Online Application: Once analysis report is received from the Laboratory, waste generator shall obtain approval from Dubai Municipality (DM-Environment Department) for disposal of the waste. To do so, waste generator shall apply for disposal of waste through 'Online Hazardous Waste Disposal Application' available at DM Web site www.dm.gov.ae. Copy of laboratory analysis report should be attached.

- ✓ Every waste generator shall register with Dubai Municipality e-Services online and then confirm their registration by going to DM Offices (E-services Section) prior to applying for disposal. This is necessary as Dubai Municipality accepts waste disposal requests only through e-Services.
- ✓ DM Inspectors may inspect actual waste for disposal.
- ✓ Respective FM service provider and facility manager shall keep and maintain an inventory of the hazardous wastes generated in their areas.
- ✓ Campus Manager shall obtain a copy of the hazardous waste disposal consignment from the service provider and retain the same for records.
- ✓ When new wastes are being generated in the premise, the entity HSEC shall review the waste list to determine whether there are additions to the hazardous waste list. Any new generated hazardous waste must be reported to entity HSEC.
- ✓ As a minimum level of treatment, hazardous waste must be neutralized to pH 6-9, screened and / or settled to remove suspended solids and those that can settle.
- ✓ Hazardous waste shall not be combined into a common effluent holding tank to permit individual sampling of each waste.
- ✓ Periodic preventive maintenance is required to remove the irreducible solids which settle and gradually fill the tank, reducing its efficiency.

Used Chemical Containers

- ✓ Any establishment intending to dispose used chemical containers must apply in writing to EPSS and obtain written approval before such containers can be transported for offsite disposal, cleaned, sold, stored or re-used elsewhere.

Asbestos Waste Disposal

- ✓ Asbestos wastes shall be treated as hazardous waste & disposed off accordingly.
- ✓ Asbestos waste shall be disposed as per DM ETG 48 Safety in Handling Asbestos.

Medical and Laboratory waste

- ✓ Every institution generating medical waste should appoint one officer to act as the waste coordinator to be responsible for the safe and efficient collection and handling of medical waste.
- ✓ Medical wastes should not be mixed with nonhazardous general waste streams such as waste from meals, kitchens, offices and medical records.
- ✓ Waste segregation shall take place at source (the point of generation) to effectively reduce not only the amount of infectious medical waste but also the risk of contamination.
- ✓ Medical waste should be placed only into either approved medical waste storage bags or sharp containers for collection into the wheeled container trolleys provided by the approved medical waste transporters.
- ✓ Bags, which are securely tied, sealed and labeled with the generator’s name should not be re-bagged in the event of a bag failure, except under supervision.
- ✓ Colour code of bag corresponding to the type of medical waste shall be adopted.

Bag Color	Waste Category
Black:	General domestic and office type waste
Red:	Radiotherapy waste
Purple:	Cyto-toxic wastes
Light Blue:	Wastes for autoclaving
Yellow:	All other medical wastes

Disposal of Outdated Pharmaceuticals and Medicines



- ✓ Expired pharmaceuticals are classified as hazardous waste under Dubai Municipality Regulations.
- ✓ Proper disposal of these wastes requires segregation and either incineration or supervised land filling at the Jebel Ali Industrial Waste Disposal Site in accordance with DM ETG 33 & 26.

Waste from Laboratories in Schools, Colleges and Universities

- ✓ Schools, colleges and universities in the emirate of Dubai shall arrange to inspect and advice on the collection and transportation of hazardous waste to Jebel Ali hazardous waste treatment facility for proper treatment and safe disposal.
- ✓ For any further information in this regard contact 04-2064250 (Engr.Sultan Al Zaabi); 04-2064258 (Engr.Khaldon Fadhil), Fax 04-2270160.
- ✓ Emails: syzaabi@dm.gov.ae or kfserhad@dm.gov.ae or visit <http://environment.gov.ae>

E-Waste**Most of the E-waste can be recycled**

- ✓ Don't mix up and dispose e-waste in general waste.
- ✓ As far as practicable reuse or recycle the e-waste.
- ✓ Various institutions and service providers in Dubai receive e-waste.
- ✓ Dubai municipality has initiated a project to refurbish and donate used computer peripherals to the needy, please visit <http://www.dm.gov.ae/DMEGOV/pcrecycle/pr-about.html>
- ✓ If disposal is inevitable, because of toxicity, the waste shall be treated as hazardous waste and disposed accordingly.