FOOD CODE 2.0

12 JULY 2023

Final Draft

1 PRELIMINARY PROVISIONS

1.1 Introduction

Food is an integral part of Dubai's life, playing an essential role in both the culture and economy of the city. The food service and retail industry serves the residents as well as the millions of visitors who come to the city every year with a wide range of cuisines. The backbone of the food service and retail industry is the food manufacturing and trading businesses that import and process foods from over the world. In addition to foods that are manufactured and prepared locally.

As of 2023, there are over 26000 food establishments in Dubai and over one million different food products in the market. Over 2000 establishments provide essential services to food industry and this include training centers, consultants, pest control contactors, cleaning services, logistics support and human resources. In a globalized world, the food supplies that we rely on are constantly challenged by food safety risks. The food industry carries the main responsibility to make sure that the food they produce, process, store, distribute and sell is safe for human consumption. The Food Safety Department shares this responsibility through setting regulations with an aim to promote industry's best practices, encouraging food establishments to put systems in place that will protect consumer's health.

A standard code is essential for food safety to ensure that the food regulatory authorities, food establishments and their service providers have a set of consistent and enforceable guidelines to follow. This helps to ensure that all food businesses are operating at a high level of food safety, regardless of their size or location.

All food establishments and their service providers need to make sure that they operate within the law for a range of measures including food safety, health and safety, fire safety, accreditation and certification requirements, etc. Regulations in Dubai are set to continually reduce the risks and achieve excellence in food safety while supporting the ability of the food industry to innovate, diversify and adopt new technologies. The Food Code constantly evolves to accommodate the changes necessary to support the food industry and meet food safety objectives.

Adequate preventive control systems based on the Food Code are essential for all food establishments to ensure that the food they produce does not pose any public health risk.

1.2 Purpose

The purpose of this Code is to provide a set of comprehensive requirements that help food establishments and their service providers achieve a higher degree of compliance with the food regulations and attain a higher standard of food safety through the adoption of good practices. It also provides law enforcement officers of the Food Safety Department and persons engaged in the food business a standard set of comprehensive advice and guidance on the application of the relevant regulations and recommended ways for compliance, intending to improve consistency in the interpretation and application of the food regulations by all stakeholders.

The ultimate objective of the Code is to provide a high level of protection for human life and health and to protect the interests of the consumers by safeguarding them from food safety hazards and threats, allergens, fraudulent or deceptive practices, adulteration, and any other practices that may cause illness or injury to the consumer.

1.3 Application

a. The Food Code is an interpretative guideline developed to support food establishments and their service providers to meet the objectives of the Federal Law Number 10 published in 2015 and the Executive Regulations under the provisions of the Federal Law; Local Order Number 11, published by Dubai Municipality in 2011; and the circulars and memos issued by the Ministry of Climate Change & Environment in UAE and the Food Safety Department of Dubai Municipality.
b. The term "shall" or "must" is used throughout this document to indicate those provisions, which the food establishments have to comply with and are an absolute requirement.
c. The term "should" is used to indicate those provisions which the food establishments have to comply with. However, deviations from such provisions are allowed under exceptional circumstances when there is a valid reason to seek alternative measures without compromising the food safety objective. Where there are deviations from the requirements specified in this Code, the establishment shall as a part of their food safety management system, validate and verify the effectiveness of the alternative measures, establish monitoring procedures and ensure that the food safety and quality objectives of the specific requirement are met.
d. The term "shall not" is used to indicate that the provisions are prohibited.
e. The term "should not" is used to indicate those provisions that are prohibited. However, deviations from such provisions are allowed under exceptional circumstances when there is a valid reason to ignore or to seek alternative measures without compromising the food safety objective. Where there are deviations from the requirement, the establishment shall, as a part of their food safety management system, validate and verify the effectiveness of the alternative measures and ensure that food safety objectives are met.
f. This document provides an extensive information base to assist in the safe operation of food establishments. As new technology becomes advanced, operational procedures, equipment standards, monitoring and verification systems, documentation and record keeping may vary from those described in this Code. The business shall, in such cases, adopt new technologies and be able to demonstrate that the food safety and quality objectives have been met.
g. Unless specifically mentioned, the provisions of this Code apply to all food products that are handled in Dubai; whether it is imported, locally produced, displayed, and sold or non-commercial shipments or food products from other Emirates.

Note: Food business operators may use processes, materials, and methods other than those specified in the Code if the operators can provide sound, scientific evidence to the Food Safety Department that demonstrates that those processes, materials, and methods comply with the regulatory requirements and meet the food safety objectives.

1.4 Scope

a. Requirements and provisions of the Food Code apply to establishments in Dubai that import, sell, offer for sale, or distribute free of charge, package, prepare,

display, serve, manufacture, process, or distribute food. The requirements are also applicable to establishments in private development zones and free zone areas.

b. The Code has, as its primary focus, a broad range of establishments that include, but are not limited to, the following:
    i. restaurants, hotels, cafeterias, and cafés;
    ii. Food service operations in institutions, including food suppliers to hospitals and schools.
    iii. Home-based commercial food activities.
    iv. Bakeries and traditional bread makers.
    v. Butcheries, meat shops, and fish stalls.
    vi. Grocery stores, supermarkets, and departmental stores.
    vii. Food catering establishments, suppliers to cruise ships, events (desert camps), and canteens.
    viii. Central processing units, cloud kitchens, and any form of centralized or decentralized commercial food operations.
    ix. Digital platforms that promote or sell foods; and the storage, logistics, and delivery facilities that support online sale.
    x. Food and beverage factories, trading companies, and e-commerce operators
    xi. Suppliers and contractors of food transportation and delivery vehicles and services.
    xii. Food storage and warehousing facilities.
    xiii. Kiosks, temporary or permanent food events, and mobile vending operations.
    xiv. Food packaging material suppliers and suppliers of food contact materials.

c. Where specified, provisions of the Code apply to the service providers of the food industry. The type of businesses and services include but are not limited to the following:
    i. Food safety training centers.
    ii. Certification bodies.
    iii. Calibration service providers.
    iv. Food laboratories.
    v. Cleaning and disinfection service providers.
    vi. Food delivery, logistics, and transportation service providers.
    vii. Suppliers of food contact materials.
    viii. Pest management service providers.
    ix. Human resource providers.

1.5 Guiding Principles

The primary objective of the Code is to ensure the safety, quality, and integrity of foods. In addition to those objectives, there are several other expected outcomes:

- Support all stakeholders in developing, establishing, and promoting a strong food safety culture.
- Enhance consistency in the interpretation and application of laws and regulations by all stakeholders ;
- Better communication among all sectors of the industry and government concerning critical requirements in food safety, and a more significant commitment to finding cooperative approaches to reducing risks.

- Improved information concerning best practices to complement industry-driven. Inspection, auditing, and educational programs.
- Ensure nutrition and sustainability objectives are met alongside food safety objectives.
- Enhance digital competency and promote data-driven decision-making.
- Enhance the concept of shared responsibility and self-commitment.
- Ensure compliance with the digital and data policies of the government.

1.6 Definitions

UAE: United Arab Emirates
Dubai: All areas of the Emirate of Dubai, including Special Development Zones, Free Zones, and the Dubai International Financial Centre.
Department: The Food Safety Department of Dubai Municipality.
Concerned Department: The Departments of Dubai Municipality, which is legally related to Food Safety in the Emirate of Dubai.
Concerned Authority: The government authority authorized to regulate or oversee the specified activity or process. Unless specified, it refers to a government entity in the Emirate of Dubai or the Federal Authorities in the UAE.
Licensing Authority: The government organization that provides trade licenses and business activity authorizations required to operate commercial establishments in Dubai. Licensing authorities include but is not limited to: Dubai Economy & Tourism (DET), Dubai International Financial Centre (DIFC), Dubai South, DAFZA, JAFZA, Dubai Development Authority (DDA), Dubai Multi Commodities Centre (DMCC) etc.
Accreditation: Third-party attestation related to a conformity assessment body (such as a certification body) conveying a formal demonstration of its competence to carry out specific conformity assessment tasks (such as audits & certifications). For this scheme, Emirates International Accreditation Centre (EIAC) is responsible for providing accreditation services to certification bodies.
Accredited Qualification: A qualification or certification provided by Certification bodies, which are accredited by Emirates International Accreditation Centre (EIAC).
Audit criteria: Set of policies, procedures or requirements used as a reference against which audit evidence is compared.
Audit evidence: Records, statements of fact or other information which are relevant to the audit criteria and verifiable.
Audit plan: Description of the activities and arrangements for an audit.
Audit scope: Extent and boundaries of an audit.
Audit team: one or more auditors conducting an audit, supported if needed by technical experts.
Audit: A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.
Auditor: A person with necessary competency in food safety registered with the Dubai Municipality as a food safety auditor.
Authorized Officer: An authorized person from the Food Safety Department who can contact, visit, or conduct inspections in food establishment.
Batch: A group or set of identifiable products obtained from a given process under practically identical circumstances and produced in a given place within one defined production period.
Biocide: A chemical substance or microorganism intended to destroy, deter, render harmless or exert a controlling effect on any harmful organism by chemical or biological means. A biocide used in Dubai must be approved by Dubai Municipality for specific use on food or food contact surfaces by food handlers. Words such as 'disinfectant' and 'sanitizer' could be used interchangeably for the term biocide.
Blackout days: Days when the audit or any audit activities cannot be performed and should be agreed in advance between the certification body and the certified organization.

Calibration: A procedure for ensuring that a known measured output of an instrument such as temperature or weight corresponds to a known national standard value for that property.
Certification Body: A body approved by Dubai Municipality and accredited by the Emirates International Accreditation Centre to certify food safety management systems or training qualifications. The criteria for approval from Dubai Municipality varies depending on the program.
Certification: A procedure by which a certification body, following its own independent assessment determines whether a business complies with the requirements of a recognized standard. For this scheme, the certification body shall be accredited by the Emirates International Accreditation Centre
Cleaning: The process of removing soil, food residues, dirt, grease and other objectionable matter from a surface, fixture, equipment etc.
Codex Alimentarius Commission: The Codex Alimentarius Commission develops harmonized international food standards, guidelines and codes of practice to protect the health of consumers and ensure fair trade practices in the food trade. It was established in 1963 by the Food and Agriculture Organization (FAO) & World Health Organization (WHO) of the United Nations.
Competence: Ability to apply knowledge and skills to achieve intended results.
Compliance with microbiological criteria: Obtaining satisfactory or acceptable results set in Annex 2 when testing against the values set for the criteria through the taking of samples, the conduct of analysis and the implementation of corrective action, in accordance with food law and the instructions given by the competent authority.
Compliance: Meeting all the requirements of a recognized standard or a requirement.
Conformity: All actions in relation to guidelines, standards or legislation which are carried out according to established procedures.
Contamination: The introduction or occurrence of a contaminant in food or the food environment.
Control Measure: Any action at a process step or a control point that can be taken or used to prevent a hazard or reduce it to an acceptable safe level.
Control Point: Any step at which food safety hazards can be controlled.
Corrective Action: The action taken when the monitoring of a critical control point indicates a potential loss of control, or when a critical limit is not met.
Critical Control Point: (CCP) a step at which control can be applied, and the control is essential to prevent a food safety hazard or reduce it to an acceptable level.
Critical Limit: A maximum or minimum limit (i.e. value) at a CCP, which can be monitored & separates acceptable from unacceptable.
Decision Tree: A sequence of questions to assist in determining whether a control point is a CCP or not.
Disinfectant: In this code, disinfectant refers to a biocide approved by the Concerned Department that can be used for reducing the bacterial count on a food contact surface or on food surface. According to the U.S. Environmental Protection Agency (EPA), disinfecting is intended to destroy or irreversibly inactivate all infectious fungi and bacteria except their spores. Meanwhile, sanitizers are not meant to kill all microorganisms, but rather reduce the number of microorganisms to a safe level.
Disinfection: The reduction, by means of chemical agents and/or physical methods, of the number of microorganisms in the environment, to a level that does not compromise food safety or suitability.
Equivalent: In respect to different systems, capable of meeting the same objectives.
Examination: An examination in food safety approved by the Food Safety Department leading to an Accredited Qualification in accordance with the provisions of the specific regulations.

Flow Diagram: A graphical diagram detailing the sequence of operations involved with a food product or process, usually from receipt of raw materials to the final consumer. In HACCP, these charts identify the CCPs.

Food Establishment Any place where food is manufactured, prepared, traded or sold directly or indirectly to the consumer. The term includes any such place regardless of whether consumption is on or off the establishment. The term includes but is not limited to trading companies, manufacturing companies, hotels, restaurants, cafés, cafeterias, caterers in hospitals, private clubs, caterers or cafeterias in public and private educational bodies, groceries, supermarkets, meat and fish shops, bakeries, mobile vendors, temporary kitchens and snack houses in petrol stations. Unless specified otherwise, the term refers to premises located in the Emirate of Dubai.

Food Establishment Operator/ Business Operator/Operator: The person (s) engaged in running the food establishment; and is responsible for ensuring that the legal requirements are met. An operator could be the owner, license holder, partner or a designated employee of the establishment.

Food Handler: Any person handling food directly or indirectly in a food establishment, whether packaged or unpackaged food, food equipment and utensils or food contact surfaces.

Food Handling: One or more operations of food production, manufacture, offering or displaying for sale, storage, preserving, wrapping, transportation, delivery, importation, exportation, or the licensing or approval for any of such activities.

Food Hygiene: All conditions and measures necessary to control hazards and ensure the safety and suitability of food at all stages along the food supply chain.

Food Safety Course means a course approved by the Department in accordance with the provisions of this Code.

Food Safety Criterion: A criterion defining the acceptability of a product or a batch of foodstuff applicable to products placed in the market

Food Safety Culture: A food safety culture is the values of an organization concerning food safety. The shared values, beliefs, and norms affect mindset and behavior toward food safety in, across, and throughout an organization. An organization with a strong food safety culture demonstrates to its employees and customers that making safe food is an important commitment.

Food Safety Management System: A food safety management system is a risk-based method of controlling food safety hazards in food establishments in order to ensure that the food is safe for consumption. A food safety management system is developed and implemented by food establishment operators to ensure food handling practices reduce the risk of foodborne illness and ensure the safest products possible. The system is comprised of knowledgeable food employees, written standard operating procedures, and regular self-assessments to ensure procedures are being followed.

Food Service Establishment: Food establishments such as restaurants, cafeterias, central production units, cloud kitchens, coffee shops, supermarkets, etc. that sell foods directly to the consumers for immediate consumption either on-site or off-site. The definition excludes business activities such as manufacturing, processing, trading, and grocery stores etc.

Food Traceability: Food traceability is the ability to follow the movement of a food product and its ingredients through all steps in the supply chain, both backward and forward.

Food Transportation Vehicle: Any mode of transport, designated for food, whether self-propelled or not and whether used on land, sea or in the air.

Food: In the context of federal laws in the UAE, food is defined as: "Any material or part thereof, raw, primary, manufactured, or semi-manufactured, intended for human consumption through eating or drinking, including beverages, bottled drinking water, ice, pickles, spices, chewing gum, and any material involved in the manufacture, preparation, and processing of food. It does not include alcohol and cosmetics, tobacco, and substances that are used only as drugs".

Good Hygiene Practices: All practices regarding the conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain.

Good Manufacturing Practice (GMP): The minimum quality & safety requirements aimed at ensuring that foods are prepared in a consistent manner according to agreed specifications e.g. storage of raw & cooked food products in separate refrigerators.

HACCP (Hazard Analysis and Critical Control Point): A preventive system of food safety management that identifies, evaluates, and controls hazards, which are significant to food safety, based on product design, hazard analysis and process control.

HACCP Plan: A document prepared in accordance with the principles of HACCP to ensure control of hazards that are significant for food safety in the segment of the food chain under consideration.

Hazard Analysis: The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety, and therefore, should be addressed in the HACCP plan.

Hazard: A biological, chemical or physical agent in food with the potential to cause an adverse health effect.

Health certificate: A document used in export and import transactions, issued by the official health authority at the country of origin, to certify that a food shipment is fit for human consumption, and meets safety standards or other required legislation for exporting.

High–Risk Foods: Foods that will support the growth of food poisoning bacteria or the formation of toxins and which are ready to eat.

- Sandwiches, pizzas, and hot meals.
- Cooked products containing meat, fish, cheese, etc.
- Cooked products that are reheated and served – pies, and readymade meals, etc.
- Smoked or cured meats and fish.
- Raw ready to eat foods -e.g. Oysters, Kebneyah, Sushi, and cut fruits.
- Dairy based desserts.
- Ripened soft or molded cheese – e.g. Brie, Danish, Blue, etc.
- Prepared vegetable salads including those containing fruit.
- Foods labelled/described as needing to be kept at a specific temperature.
- Frozen food such as ice cream.
- Ready to eat foods that have a higher risk of physical or chemical contamination in any form; or vulnerability to adulteration or food fraud.

Microbiological Criterion: A criterion defining the acceptability of a product, a batch of foodstuffs or a process, based on the absence, presence or number of micro-organisms, and/or on the quantity of their toxins/ metabolites, per unit(s) of mass, volume, area or batch.

Micro-organisms: Bacteria, viruses, yeasts, molds, algae, parasitic protozoa, microscopic parasitic helminths, and their toxins and metabolites.

Monitoring: the systematic observation, measurement & recording of the significant factors for control of a hazard at CCPs & assessing whether a CCP is under control.
Non-Conforming Product/Non-Conformity: A product or procedure that does not meet the required standard or specification.
Novel Food: Newly developed, innovative food produced using new production techniques and processes. It also includes any food that has not been eaten before or that has traditionally been eaten outside the Middle East region specifically the United Arab Emirates, and has recently been introduced to the country. Novel foods include cell-based foods.
Packaging: Any operation consisting of placing the food in containers (i.e. primary packaging) or placing the food containers in further packaging material (i.e. secondary packaging).
Person in Charge Certified in Food Safety (PIC): He/she is responsible for the food-related operations in the food establishment, and has direct authority, control, or supervision over employees who engage in the storage, preparation, display, or service of foods. A PIC shall be formally trained and have a food safety qualification and certification relevant to the type of food business
Pests: Any undesirable animal or insects including, but not limited to, birds, rodents, flies, larvae etc. that could affect the food safety of the food chain and are objectionable or a nuisance.
Phytosanitary certificate: An inspection certificate issued by a the concerned governmental authority to show that a particular shipment has been treated to be free from harmful pests and plant diseases.
Potable Water: Drinking water that is pure and healthy at the point of usage and meets the requirements of approved Standards.
Prerequisites: Practices & procedures required prior to & during the implementation & ongoing operation of a HACCP system e.g. premises, equipment, staff training, pest control, waste management.
Primary Product: a product consisting of a natural raw material including goods that are available from cultivating raw materials without a manufacturing process. Significant primary product industries include agriculture, fishing, mining, and forestry.
Process Hygiene Criterion: A criterion indicating the acceptable functioning of the production process. Such a criterion is not applicable to products placed on the market. It sets an indicative contamination value above which corrective actions are required in order to maintain the hygiene of the process in compliance with food law.
Processing: Action(s) that substantially alters the initial product, including heating, smoking, curing, maturing, drying, marinating, extraction, extrusion or a combination of those processes.
Raw food: Food that is neither cooked nor heat processed.
Raw foods of animal origin: Raw foods of animal origin such as meat, poultry products, fish, shellfish etc. that are likely to be contaminated with pathogenic or spoilage microorganisms. They are usually stored chilled or frozen to minimize spoilage.
Raw ready-to-eat food: Food that is neither cooked nor heat processed before consumption. Examples include salad vegetables, sashimi, cut fruits etc.
Ready-to-Eat Foods: Any food for consumption without further treatment or processing. Examples of ready-to-eat food items may include: sliced cooked meats, cooked meat products, cooked/roast chickens, sandwiches and filled rolls, dairy products such as milk and cheese, fruits, pre-washed/topped and tailed vegetables, prepared vegetable salads, whole salad items such as tomatoes or cucumbers, open and canned ready-to-eat fish and fish products such as salmon, tuna or sardines, shellfish, preserves and jams, condiments, bread, confectionery, and biscuits.

Recall: A recall is an action taken to remove from distribution, sale, and consumption, food that may pose a health risk to consumers.
Records: Evidence, written or otherwise, of a working HACCP system & its prerequisite e.g. cooking temperatures, delivery or cleaning records.
Reference: Codex document CAC/GL 69 – 2008 Guidelines for the Validation of Food Safety Control Measures
Representative Sample: A sample in which the characteristics of the batch from which it is drawn are maintained. This is in particular the case of a simple random sample where each of the items or increments of the batch has been given the same probability of entering the sample.
Risk: The probability of a hazard occurring e.g. the risk of a cooked beef sausage not reaching the correct temperature during a defined cooking time.
Sample: A small amount of a substance taken from a larger amount and tested to obtain information about the substance. OR A small part or quantity intended to show what the whole is like.
Sanitize: is to make sanitary, as by cleaning or disinfecting, and to be sanitary is to be free from elements such as filth or pathogens that endanger health.
Sanitizer: In this code, sanitizer refers to a biocide approved by the Health and Safety Department of Dubai Municipality that can be used for reducing the bacterial count on a food contact surface or on a food surface. (Sanitizers as per the US EPA are used to reduce, but not necessarily eliminate, microorganisms from the inanimate environment to levels considered safe as determined by regulations.)
Severity: The seriousness or magnitude of a specific hazard or its consequences.
Shelf- life: The period during which a food product maintains its microbiological safety and suitability at a specified storage temperature and where appropriate, specified storage and handling conditions.
Technical Expert: Person who provides specific knowledge or expertise
Temporary Food Establishments: are those types of establishments that are set up for limited time period (e.g., special events, fairs and festivals, exhibitions etc.).
Training: An act of increasing knowledge and skill of an employee for doing a particular job to desire standard by instructions & practices. Training methods include but not limited to class-room training, e-learning etc.
Validation: Obtaining evidence that the elements of a HACCP plan are effective e.g. microbiological examination of equipment surfaces before & after sanitation to determine if the sanitation procedure was effective in reducing numbers of microorganisms to desired levels.
Verification: The application of methods, procedures, tests & other evaluations, in addition to monitoring to determine compliance with a HACCP plan.
Vulnerable Groups: The people who are more susceptible than others to foodborne illness e.g. Very young, very old, pregnant women or people suffering from illnesses.

2 Licensing, Permits, Approvals, Construction, Design, and Facilities

2.1 Trade Licensing, Approvals, and Permits

a. Food establishments and their service providers in the Emirate of Dubai require a valid trade license from the concerned licensing authority before starting operations.
b. Food establishments shall in their trade license have business activities that are related to food. The description and scope of the activities listed in the license must be the same as the actual activities performed by the establishment.
c. The food establishment shall not carry out any food or non-food activity (or activities) other than business activities listed in the trade license.
d. Establishments that provide services and supplies to food establishments must have a valid trade license with activities that match the service provided by the establishment.
e. Where required by the Food Safety Department, the establishment shall obtain the necessary authorizations and permits before the start of operations. Activities include:
    i. operating of temporary and permanent food kiosks
    ii. supplying food or providing catering to schools, nurseries and daycare facilities
    iii. selling food at events and exhibitions
    iv. operating food trucks, mobile vending or offering food for sale outside the location identified in the license during layout approval

.

2.2 Approval of Construction Plans and Specifications

a. Proposed layouts (floor plan) for new construction or renovations to an existing food establishment shall be approved by the Food Safety Department before the construction, renovation, or re-construction to ensure that the minimum size, workflow, and equipment plan set for the type of business activities are met. Particulars to be indicated on a scaled layout submitted for approval should include, but are not limited to:
    i. area and space allocated to food handling, cooking, cleaning, preparation, storage, and seating
    ii. sanitary fitments, open spaces, restrooms, storage areas, area for storage of cleaning chemicals and tools
    iii. all windows, and mechanical ventilation system
    iv. location of equipment and facilities to carry out different activities e.g. handwashing, cleaning facilities, or any different kind of food preparation, etc.
    v. all means of exit and entry.
b. In existing facilities, major alterations that affect the main layout or the process flow shall not be carried out without prior approval from the Food Safety Department. Alteration, addition, or removal of food areas, or equipment that are part of the minimum criteria for the licensed activities require prior approval before the changes are done. Plans for minor alterations that do not involve a change in the main layout and the flow of work such as the installation of shelves in a storeroom do not require prior approval.

c. Plans for minor modifications that do not involve a change in the major design and sequence of operations, such as installing shelves in the warehouse, do not require prior approval.
d. Where provisions for self-evaluation and auto-approval have been made by the licensing authority through electronic service channels, the business operator must evaluate the proposed layout to ensure that the plan meets the criteria and the requirements of the specific activity or activities that will be carried out by the establishment.
e. When necessary, complete digital information about the preparation area, equipment and sequence of operations within the existing facility should be included in government e-service programs.
f. Companies providing services to the food sector, food catering facilities, food supplying, and serving facilities, centralized processing and production units, cloud kitchens, manufacturers, packaging and repacking units, supermarkets and department stores are required to obtain pre-approval of the layouts.
g. Some food establishments do not require approval of the interior design scheme, but they must adhere to the food safety standards contained in this code.

Rationale:

A plan approval process is set to evaluate the capability of the food facility to produce safe food under the expected circumstances. The approval process includes expert verification of all processes, process flow and equipment layout, evaluation of space based on the type of activity, processes, number of people handling the operations, and any other details specific to the type and nature of the food business.

2.3 Site and Location

a. Sites for food establishments should be chosen in such a way that they are free from conditions that might interfere with their sanitary operation. Food establishments should be located far enough from waste disposal facilities and incompatible processing facilities so that there is no risk of contamination.
b. Generally, a minimum distance of 30 meters is recommended from potential sources of contamination. However, a greater or lesser distance could be accepted depending on specific site conditions and measures in place to protect food.
c. Streets, lanes and other public places or the common part of the building, which are within a minimum of at least 10 meters around the food establishment, should be kept clean, and free of stagnant water, litter, garbage or waste that can attract pests.

Rationale

Poorly maintained or unhygienic surroundings and facilities can lead to contamination of food. Conditions, which might lead to contamination, include excessive dust, foul odors, smoke, pest infestations, airborne microbial and chemical contaminants, and other similar conditions. Suitable site selection reduces the possibility of such conditions that would expose the food to contaminants.

2.4 General Requirements for Design and Construction

a. The design and construction of food establishment should:
   - be appropriate for the activities for which the establishment has been approved.
   - provide adequate space and facilities for the activities to be conducted and be suitable for the fixtures, fittings and equipment used for those activities.
   - facilitate effective cleaning and disinfection processes.
   - help exclude dirt, dust, fumes, smoke and other contaminants.
   - prevent the entry of pests.
   - not provide harbourage for pests.
   - provide a safe environment for workers and where applicable for customers.

b. The layout of food establishment should be designed in such a manner that:
   - food flow is unidirectional; (i.e. receiving → storage → preparation→ cooking → packaging /serving /dispatch);
   - adequate spaces are provided for food preparation, cooking, cooling, storage, and storage of equipment & utensils; safe installation of sanitary fitments, and cleaning facilities;
   - food or clean utensils are not conveyed during the process through an open space or open yard that would expose food to contaminants.

c. Incompatible areas or processes, particularly toilets, clean-up, and chemical storage areas, should be separated from food preparation/processing areas. Homes or residences should not be used for food-related operations.

d. Under specific conditions when licenses are issued to home-based businesses, the business operator must ensure that the food preparation area is physically separate from the residential area, and ensure that the food preparation, storage, and display areas meet the requirements specified under this clause.

Rationale:

A properly designed and operated food establishment will minimize the likelihood of food contamination. At the same time, unnecessary movement of food and personnel within the establishment increases the likelihood of contamination, and hence should be controlled as much as possible. Well-designed layout is a pre-requisite for effective implementation of any food safety program.

2.5 Spatial Requirements

a. The space available in a food establishment should be suitable for the business activity, and sufficient to carry out the operations as per the relevant provisions of this Code. Where applicable, there should be sufficient space for:
   - receiving and storage of raw materials
   - preparation, processing and packaging of foods, and storage of finished goods
   - where necessary, facilities to hold, serve or dispatch food
   - storage of equipment and packaging materials
   - effective cleaning and disinfection of food contact surfaces
   - safe storage of cleaning tools, equipment and biocides
   - storage and handling of waste materials
   - staff changing rooms and lockers

b. Food activities should only be carried out within the area as delineated in the approved layout plan. Where the nature or extent of the activities warrants an increase in space in the establishment, the business operator must ensure that space is sufficiently increased.

Rationale:

Adequate space, facilities and equipment are essential to ensure safe food preparation. For example, too small kitchen of a restaurant may cause congestion and unhygienic food operation that increases the risk of food contamination. In food factories, food safety risks increase substantially when the processing areas are congested. The general rule for food service establishments is that, establishments should allocate sufficient area for food handling, storage, and employees based on the type and extent of the activities. The type of food, processes and equipment use, number of portions of food or meals produced and the number of people working at the same time should also be considered when deciding the spatial requirements for food service establishments. Operators must also take in to account space required for non food facilities such as storage areas for packaging materials, catering equipment, cleaning chemicals and tools, and employee facilities such as toilets and locker facilities.

2.6 Floor, Walls, Ceilings, Exterior Protective Barriers, and Openings

The requirements in this section apply to the floors, walls, ceilings, exterior protective barriers, and openings of all areas used for food handling and associated activities such as storage and packaging. The requirement applies to both permanent and short-term use food facilities.

2.6.1 Floors

Floors should be designed and constructed in a way that is appropriate for the activities conducted in the food establishment.

a. Floors in dry areas should be durable, impervious, easily cleanable, and non-slip. The floor-to-wall joints should be coved to prevent the accumulation of dirt and to facilitate cleaning.

b. In areas where the floor could be wet (such as food preparation or processing areas, walk-in chillers, and washrooms), and areas subject to flushing or spray cleaning, the floor should be:
   i. light colored.

ii. durable, easily cleanable, and non-slip.
iii. constructed of impervious material such as flooring tile or resin that is able to withstand regular wet washing and steam cleaning.
iv. coved at the wall-to-floor joints and sealed.
v. designed to prevent the pooling of liquids.
vi. sufficiently sloped for liquids to drain to adequately sized and constructed floor drains (clause 2.7). Generally, a minimum slope of 2% is recommended.

c. Clean rubber or plastic mats can be used, excluding carpet or other similar floor coverings, these should be designed for easy removal, cleaning, and, if necessary, disinfection.

d. Absorbent material (e.g., cardboard, newspaper, sponge, unsuitable rubber mats) should not be used as floor material.

Note: The requirements do not apply to facilities set up for food events that run for less than one week where specific permits are issued by the concerned Department.

Rationale:
Properly constructed floors facilitate cleaning and disinfection. Impervious materials do not absorb water or organic matter, and sloping helps avoid pooling of liquids, which can lead to unhygienic conditions. If inferior materials are used, the coating on the floor is either likely to peel off or delaminate and lead to food contamination. Ensure that the thickness of the flooring material is suitable to withstand the cleaning activities and the load. Where regular deep cleaning is required with steam, the suitability of the flooring material should be assessed before the construction to avoid problems later.

2.6.2 Walls and Ceiling

a. Walls

i. Walls should be designed and constructed in such a way that they can be maintained clean.
ii. Walls in wet areas should be constructed with impervious material that can withstand regular washing.
iii. In areas where open food is handled, internal surfaces of walls and partitions should be surfaced with smooth, preferably light-colored, durable, non-absorbent, and easily cleanable materials (e.g. tiles or stainless steel) to a height of not less than 2 Meters. The rest may be painted with a light-colour. Junctions between walls, partitions, and floors should be coved.

b. Ceiling

i. The ceiling should be of continuous construction so that there are no empty spaces or wide joints. Although ceilings are less likely to require frequent cleaning, the surfaces should allow ease of cleaning.
ii. The ceiling in kitchens and food rooms should be of light color and fireproof.
iii. Ceiling and overhead fixtures should be constructed in a way that prevents the accumulation of dirt. There should be adequate measures in place to reduce condensation and subsequent growth of undesirable mould.

c. False Ceiling

i. False ceiling, if used in food handling areas should have smooth, easily cleanable, and impervious surfaces.
ii. Access openings to the space above the false ceiling should be provided to facilitate cleaning and inspection.

Rationale:

Light colored walls and ceilings enable easy detection of dirt for prompt removal. Durable, impervious and easily cleanable surfaces facilitate cleaning work. However, note that the emphasis should be on cleanliness which is the primary objective of this provision. The space between false ceiling and the original ceiling can get dirty and harbor pests. Periodic checks and cleaning are necessary to maintain a healthy and hygienic work environment.

Exterior openings must be managed in a way to prevent entry of pests and contaminants, and to ensure comfortable working environment.

2.6.3 Exterior Protective Barriers and Openings

a. Exterior openings should be protected from the entry of pests. Examples include:
   i. Filling or closing holes and other gaps along the floor, walls, and ceiling.
   ii. Solid, self-closing, tight-fitting doors.
   iii. Self-closing screen doors that open outward.
b. If windows or doors are kept open for ventilation or other purposes, the exterior openings should be protected against the entry of pests by means such as screens, properly designed and installed air curtains or other effective means to restrict the entry of pests.
c. Windows, doors, and other openings should be designed and constructed in a way that cleaning is facilitated. Such openings should be used in a way that food is protected from dirt and contamination.

Note: Warm weather conditions in Dubai require air conditioning throughout the warmer months and exterior openings can significantly hinder the cooling process. Food facilities should be built without exterior openings as much as possible.

2.6.4 Floor Drains

a. Floor drains must be designed to effectively remove wastewater and materials without interfering with the hygienic operation of the food facility. The design and capacity of the drain should be suitable for the type of operations in the facility.
b. To prevent blockage, adequate traps, and interceptors must be provided based on the type and nature of the waste that is carried through the drains.
c. Drains when concealed should be provided with removable drain covers. Removable covers should be made of suitable material, and easily removable for cleaning and maintenance.
d. Drains must be designed to flow from high-care areas to low-care areas. Drain lines must be sloped, properly trapped, vented, and connected to a proper drainage system.

e. The drainage system must be constructed in a way that there is no cross-connection between drain lines and the food or water supply lines.
f. Where necessary, traps should be provided to prevent the entry of pests into the drainage

Rationale:

The accumulation of wastewater on the floor and drain of a food establishment can lead to insanitary conditions. Properly designed drains and drain lines can eliminate the accumulation of wastewater and prevent entry and growth of pests. Biofilms are easily formed in poorly maintained drains and become a source of pathogenic bacteria. Drains can also be a source of pest infestation.

2.6.5 Stairs and Mezzanines

a. Stairways should be constructed in a way that food is not exposed to the risk of contamination.
b. Mezzanines should not be located over food preparation areas without adequate measures to prevent the splashing or dripping of contaminants to the food below.
c. Stairs and mezzanines shall meet the construction and safety requirements of the concerned department of Dubai Municipality.
d. Food, equipment, and packaging materials should not be stored in stairways.
e. Where mezzanines are used as storage spaces, the floor should be easily accessible and maintained clean, and kept free from pests.

Rationale:

Stairs and mezzanines, over work areas or exposed food can act as a source of contamination. Proper design and construction can prevent contamination.

2.7 Equipment and Utensils

Equipment and utensils used for food processing, preparation, handling, storage, and display should be safe, easily cleanable, and durable, and retain their characteristic qualities under normal use and conditions.

2.7.1 Design, Construction, and Use of Equipment and Utensils

a. Equipment and utensils shall be made of safe and suitable material that will not affect the quality and safety of food.
b. Materials used for making the equipment and utensil should be resistant to denting, pitting, chipping, and cracking. Food contact surfaces should be smooth to enable them to be kept clean, and where necessary disinfected.
c. Materials used in the construction and repair of equipment and utensils shall be non-toxic, non-absorbent, durable, and not affected by foods and cleaning compounds. They shall neither impart odor, color, or taste nor contribute to the contamination of food. They should also maintain their original properties under repeated use. Painted food-contact surfaces are prohibited.
d. Equipment and utensils shall be free from difficult-to-clean internal corners and crevices. Food contact surfaces shall be readily accessible for cleaning. Where

necessary, equipment should be movable or capable of being disassembled to allow for maintenance, cleaning, and disinfection.

e. Food contact surfaces should be non-absorbent, with smooth and easily cleanable surfaces. Except for hard and treated wood or material of equivalent nature, food contact surfaces that require regular cleaning and disinfection should not be made of soft wood or plant materials.
f. Canvas, cloth, and other porous or non-porous material, unless certified as suitable for food contact purposes, should not be used as food contact surfaces.
g. Equipment should be used in accordance with its intended use.
h. Equipment used to cook, heat treat, cool, store or freeze food should be designed to achieve the required temperatures as rapidly as necessary to ensure food safety.
i. Equipment containing bearings and gears requiring lubricants shall be designed and constructed so that the lubricant shall not leak or drip into the food or onto food-contact surfaces. Food-grade lubricants shall be used on or within food-contact surfaces.
j. Where specified in this document, the food establishment shall use equipment or materials approved by the relevant regulatory authority.

2.7.2 Location of Equipment

a. Equipment used in a food establishment should be suitably located or positioned so that it:
    i. is not exposed to any sources of contamination
    ii. can be maintained, cleaned, and disinfected
    iii. can be inspected easily
    iv. may be properly vented when required
    v. is installed in such a manner to allow adequate cleaning of the equipment and the surrounding area.
b. Equipment and utensils used in processing, handling, and storage of foods (including single-service and single-use articles) shall not be located in staff locker rooms, toilet rooms, garbage storage rooms, mechanical rooms, under sewer or water lines not shielded to intercept leakage/condensate, under open stairwells, or any area where the equipment may become contaminated.
c. Unobstructed aisles, walkways, and working spaces shall be sufficiently wide to permit employees to perform their duties readily without contamination of food or food-contact surfaces by clothing or personal contact.

Rationale:

Equipment used in a food establishment shall be kept in a clean and sanitary condition to minimize the risk of contamination of food by equipment surfaces. Therefore, when considering the location of equipment, several factors should be taken into account, including ease of cleaning, the intended use of equipment, and the methods for prevention of contamination of the equipment. Special care should be taken in the placement of food equipment, which will be used to process, handle or store food. Such equipment shall not be located in areas where it may become contaminated, since the surfaces of the equipment will be coming in direct contact with food.

2.7.3 Fixed Equipment

a. Equipment that is fixed (i.e., not easily moveable) should be either:
    i. sealed to adjoining walls, floors, and equipment; or
    ii. Positioned and designed in such a manner to comfortably allow cleaning under and around the equipment.
b. Equipment that is intended to be "Clean in Place (CIP)" should be designed and constructed so that:
    i. cleaning and disinfection solutions circulate through a fixed system and contact all interior food contact surfaces.
    ii. the system is self-draining or capable of being completely drained of cleaning and disinfectant solutions.
    iii. there are inspection access points to ensure all interior food contact surfaces throughout the fixed system are being effectively cleaned.

2.7.4 Calibration and Correction of Measuring Devices

The following requirements apply for calibration and the correction process:

a. All instrumentation associated with specific food safety control measures such as temperature gauges, thermometers, and metal detectors should be initially calibrated (before use) and re-calibrated at specified calibration intervals not exceeding one year.
b. Calibration should be carried out by an external service provider accredited by the Emirates International Accreditation Centre (EIAC) to provide the specific calibration service.
c. In food service establishments such as restaurants, correction of equipment such as the thermometer probes used for routine monitoring of foods and display temperature measurement devices can be carried out by trained personnel using a reference thermometer that has been calibrated externally.
d. When instrumentation is broken or out of calibration it should not be used until repaired or replaced and re-calibrated. When internal probes in equipment are broken or out of calibration, the equipment should not be used until the probes are repaired or replaced and re-calibrated.

Note: The calibration frequency for reference instruments should be based on the specifications of the equipment manufacturer, or, based on the risk assessment carried out by the food establishment. In the absence of the manufacturer's instructions for the calibration interval, the establishment should calibrate the instrument before it is used, and calibrate at least once annually thereafter. If data at the annual calibration interval indicates that the instrument is near or above its acceptable accuracy (i.e. with no other conditions of use suspected of causing the inaccuracy), the calibration interval frequency should be shortened.

In holding equipment such as chillers and freezers, the display temperature is dependent on the placement of the sensors. Establishments should monitor the temperature of the foods kept in different racks or zones to ensure that the temperature of storage is suitable.

Rationale:

The inaccuracy of temperature gauges is usually cumulative. Moreover, the vulnerability of devices to damage and contamination (physical and chemical) can lead to inaccuracy and sometimes exceed calibration limits very quickly. The uses of devices used to measure temperature, pH, water activity, weighing food additives and metal detectors in food establishments are usually the most important monitoring and control methods, and calibration should be done more frequently for such devices due to its impact on food safety.

In addition to the importance of these tools from the legal aspects and quality factors in the food establishment, such as the tools used in weighing products, measuring product specifications such as fat content and sugar content should be taken into account by manufacturers of packaged food products.

2.8 Lighting

a. Lighting and lighting fixtures should be designed to prevent the accumulation of dirt and be easily cleanable.
b. Food establishments shall provide sufficient natural or artificial light to ensure the safe and sanitary production of food and facilitate the cleaning of the establishment. Unless otherwise specified, the minimum lighting intensity should be:
    i. 110 lux (at a distance of 89 cm / 3 feet above the floor) in walk-in-chillers, dry food storage areas, and in all other areas and rooms during periods of cleaning;
    ii. 220 lux (at a distance of 89 cm / 3 feet above the floor) in areas where fresh produce or packaged foods are sold or offered for consumption; areas used for hand washing, ware-washing, and equipment and utensil storage; and in toilet rooms; and
    iii. 500 lux at the surface where a food handler is working with unpackaged high-risk foods or with food utensils and equipment such as knives, slicers, grinders, or saws where employee/worker safety is a factor.

c. Except as otherwise specified, lighting fixtures should be shatterproof or be shielded with shatterproof coverings in areas where they are exposed to food, equipment, utensils, linens, or unwrapped packing materials. Shielded lighting is not necessary in areas used only for storing food in unopened packages or where the food cannot be affected by broken glass falling onto it.

Rationale:

Adequate lighting promotes cleanliness by facilitating the identification of unclean areas. Shielding of lights to prevent the contamination of food from glass fragments in the event of breakage is an essential public health protection measure. In addition to that, risk of breakage also occurs when diffusers are removed for cleaning or changing tubes.

2.9 Ventilation

a. Food establishments should be provided with adequate mechanical or mixed-mode ventilation to ensure good indoor air quality.
b. The design and installation of mechanical ventilation systems should be based on the requirements provided by the Health and Safety Department of Dubai Municipality to ensure a suitable work environment for food handlers.
c. Ventilation systems should be designed and installed in a way that:
    i. they are sufficient in number and capacity to prevent grease or condensation on the walls and ceiling;
    ii. the filters or other grease-extracting equipment are easily removable for cleaning and replacement if not designed to be cleaned in place;
    iii. The exhaust ventilation hood system components such as hoods, fans, guards, and ducting should prevent grease or condensation from draining or dripping.
    iv. They are equipped with make-up air systems, installed in accordance with the requirements of the concerned Department of Dubai Municipality.
    v. If vented to the outside, ventilation systems should not create a public health hazard; nuisance; or unlawful discharge.
    vi. Air intake location should not be a source of contamination.
d. In high-care food facilities where air quality could impact the safety or quality of the product, mechanical ventilation systems should be installed in such a manner that airflow is directed from the clean area to the contaminated area.
e. Ventilation systems should be cleaned in accordance with the requirements stipulated by the Health and Safety Department of Dubai Municipality.
f. Where grease could pose a fire hazard, the grease trapping filters in kitchen hood exhaust systems should be inspected at least once a month to ensure that they are secure and functional. When necessary, the filters should be cleaned and replaced.
g. The kitchen hood and the exhaust plenum should be maintained clean, and professionally cleaned at least once a year by a cleaning company approved by Dubai Municipality. The frequency of the cleaning must be increased if necessary.

Rationale:

The air supplied to the food premises shall be of sufficient quality so as not to contaminate the equipment or the food. Unclean air, excessive dust, odors, or build-up of condensation or grease are all potential sources of food contamination.

Build-up of grease/fat in equipment such as range hoods also pose a fire hazard. Kitchen exhaust and duct systems that are not periodically inspected, maintained or cleaned will be subject to a build-up of oil, grease and other inflammable materials within the duct, filters, gutters, and on the internal surfaces of the hood. Systems that are not properly maintained present a higher risk of a significant fire event.

2.10 Storage Areas

a. Food establishments require adequate storage facilities for all food & non-food items. During storage, food items shall be protected from contamination such as water leakage, pest infestation, or any other insanitary condition.
b. The following criteria should be applied to all storage areas:
    i. adequate shelving should be provided so that all materials can be stored off the floor. All food, food items, and equipment should be stored at a minimum of 15 cm (6 in.) off the floor on racks, shelves, or pallets to allow access for cleaning, and easier visual inspection;
    ii. shelving units should be at least 20 cm or more away from the walls to reduce the chances of condensation brought on by the differences in temperature between the container and the surface on which it rests.
    iii. shelves should be constructed of materials that are durable and easily cleanable.
c. The facilities used for the storage of food, food ingredients, equipment, and packaging should be designed and constructed so that they:
    i. are cleanable;
    ii. are located in a clean and dry location;
    iii. restrict pest access and harbourage;
    iv. provide an environment that minimizes the deterioration of stored materials;
    v. protect food from contamination during storage.
d. The facilities used for the storage of food, food ingredients, equipment, and packaging materials should not be located:
    i. in areas used for the storage of soiled or contaminated objects and materials;
    ii. in locker rooms, toilets, garbage, or mechanical rooms;
    iii. under sewer lines that are not shielded to intercept potential drips.
e. Non-food agents such as disinfectants, detergents, and similar products shall be stored separately in a lockable area that prevents the potential for contamination of food, food ingredients, food contact surfaces and non-food materials such as utensils, linens, single-service and single-use utensils, and packaging materials.
f. Personal belongings and uniforms of employees should be stored in lockers or locker rooms.

Rationale:

Contamination of food, food ingredients, equipment, and non-food materials can occur when improper storage facilities are used. Separation of food and equipment from toxic and soiled materials ensures that the opportunity for cross-contamination is minimized.

2.11 Water Supply

Where applicable, the food establishment must meet the requirements stipulated in any local, national, or regional standards relevant to sourcing, storage, filtration and transportation of water.

2.11.1 Sourcing of Water

a. An adequate supply of potable water shall be available for food preparation and cleaning purposes in food establishments and any commercial or residential establishments where food or food contact materials are stored, processed, packaged or displayed.
b. Water should be obtained from a source approved by the Dubai Municipality which includes water supplied by the Dubai Electricity and Water Authority (DEWA) and other licensed and authorized commercial suppliers of water. In the absence of such a direct supply system from DEWA, the food establishment must, as a part of its food safety management system, establish a system to periodically evaluate the quality and safety of the water used in the facility to ensure that the standards of potable drinking water are met at all times.
c. Where non-potable water is used for non-food purposes, for example, fire control, steam production, refrigeration and other similar purposes, a separate duly identified water supply system should be used. Non-potable water lines should not be connected with potable water systems.
d. Steam used directly in contact with food shall not contain any substance that presents a health hazard or is likely to contaminate the food.

2.11.2 Water Storage and Transportation

a. Water storage and overflow tanks should be made of safe and suitable food contact materials and designed and constructed in a manner that prevents contamination.
b. Commercial water tanks must be made of materials approved by the concerned regulatory authority.
c. These tanks should be provided with appropriate covers to prevent the access of animals, birds and other extraneous matters.
d. Water storage tanks shall be maintained clean at all times.

e. Cleaning and disinfection of tanks should be carried out at least twice per year or when monitoring indicates that more frequent cleaning is necessary.
f. To ensure effective cleaning, water tanks must be cleaned by a water tank cleaning company approved by the concerned department of Dubai Municipality.
g. When a storage tank is shared by several food establishments (such as in a mall), the food establishment should be able to show documented evidence that the water tank is cleaned as required.
h. Cleaning materials, chemicals, and processes must meet the requirements listed in clause 4.2.4 of this document.
i. Water from storage tanks when tested as a part of the verification program should meet the safety and quality parameters set in the UAE.S GSO 149 standard for non-bottled drinking water and in the Drinking Water Law.
j. Food establishments shall maintain evidence for cleaning and disinfection such as a photograph of the clean tank, and water analysis reports as a part of their food safety management system.

2.11.3 Water Coolers and Dispensers

a. Water coolers must be suitable, well-designed to facilitate cleaning, and located in areas where the safety of water will not be compromised.
b. The water cooler shall be well maintained and cleaned according to the manufacturer's instructions or cleaned by the manufacturer.

2.11.4 Water Filters

a. Water filters that are used for coolers and dispensers should be safe and suitable for the purpose, changed when necessary to prevent any accumulation of dirt or formation of biofilms.
b. Where applicable and specified, filters should be used that meet the standards or certification requirements of the concerned department.

Rationale:

Water can be a source of food contamination and thus must be of good standard all the time. Even though the water source is good, a bad supply system of storage tank can recontamination the water before it is consumed. A safe distribution system and regular cleaning and disinfection of water tanks will ensure that the water is clean and safe to drink and also avoid contamination of food or equipment.

2.12 Sewage and Solid Waste Disposal

a. Sewage disposal systems shall meet all the requirements of the concerned department of Dubai Municipality.
b. Disposal of sewage and solid waste shall be done in a hygienic manner that does not expose the food establishment or food products to potential contamination.
c. Food establishments should follow the requirements for the separation of various solid-waste streams as outlined by the concerned department of Dubai Municipality. Solid waste containers within the food establishment should:
    i. be sufficient in number and accessible;
    ii. be designed to minimize both the attraction of pests and the potential for airborne contamination;
    iii. be identified as to their contents;
    iv. have functional foot-operated lids, if closed containers are used.
d. Garbage storage rooms and containers should be emptied, cleaned, and disinfected as often as necessary.
e. Solid waste containers/receptacles located outside the establishment should be:
    i. equipped with covers and closed when not in use;
    ii. pest-proof and maintained in a manner that does not attract pests;
    iii. Located away from the entrance of the food production area.

Rationale:

The proper disposal of sewage and solid waste is critical in preventing the spread of pathogens in the food premises. In addition, the sanitary disposal of both sewage and solid wastes, and the maintenance of waste containers and facilities, will minimize the presence of pests inside and outside the establishment

Open waste containers can be used in a pest free environment if such bins can be emptied and cleaned frequently. Where bins with lids are used, there is always a human tendency to open the lid with hands. Food handlers should refrain from touching the lids with hands.

2.13 Grease Traps

a. Grease traps are necessary for all food establishments where oil or fat is likely to go into the wastewater system.
b. Grease traps should be installed in a way that the operation and maintenance of the system do not interfere with hygiene in the food facility. Where traps are likely to interfere with hygiene, installation should be done away from food handling areas.
c. The design and operation of the grease traps shall meet the requirements of the concerned department of Dubai Municipality.
d. Grease traps should be of a suitable type, and be emptied and cleaned at a specified interval by an approved collection and cleaning company.

Rationale:

Waste water from food establishment carries a large quantity of grease, which will solidify and cause blockages in drains. It must be removed from the water entering the drain. A blocked drain / sewer causes back-flow of waste water and emits bad odors, posing a hazard to food safety and environmental hygiene.

2.14 Plumbing System

a. The plumbing system conveying water and waste requires approval from the concerned department of Dubai Municipality.
b. Water conditioning devices such as water filters or screens should be of a type that permits easy disassembling to facilitate periodic servicing and cleaning.
c. To prevent backflow through cross-connections, back-flow prevention devices (e.g. air gaps, vacuum breakers) should be installed wherever required.
d. Utility service lines and pipes should be concealed or fitted in a way that prevents the accumulation of dust, and dirt should not obstruct or prevent cleaning of the floors, walls, or ceiling.

Rationale:

Cross connections and backflow can contaminate the drinking water supply. Proper identification of the supply system and drainage systems allows easy detection of problems and correction.

2.15

2.16 Overhead Utility Lines

a. Utility lines such as gas, electrical, sewage, and water lines, as well as cooling ducts, should be suspended away from work areas or areas of open food to minimize the potential for contamination.
b. They should exhibit no sign of flaking rust or paint.
c. The lines should be:
    - insulated, where appropriate, to prevent condensation;
    - constructed and covered with a suitable material to minimize the build-up of soil;
    - easily cleanable; and
    - labelled or color-coded.

d. Lines carrying contaminated or hazardous materials, such as sewer or floor drain lines, shall be located sufficiently distant from any product or product contact surfaces to prevent any risk of contamination.

Rationale:

Conditions such as dripping condensation or excessive dust from overhead utility lines can be a source of contamination when the lines are suspended over work areas or areas of open food. The consequences of contamination due to leakage are significantly greater with lines carrying sewage, hazardous chemicals or highly contaminated materials.

2.17 Hand Wash Stations

a. All food establishments have accessible handwashing facilities to ensure that food handlers can wash their hands effectively before handling food.
b. In facilities that handle open food, at least one hand wash station shall be provided in each food preparation area. Additional hand wash stations may be required depending on the type and extent of activity.
c. In storage houses and logistics centers that do not handle open food, there should be an easily accessible handwashing facility to ensure that employees wash their hands before the start of work, after visiting the toilet, and after performing any tasks that could interfere with the safety of the food.
d. Hand wash facilities shall:
    i. be located to allow convenient access and use by food handlers and other workers and employees;
    ii. be equipped with liquid soap and single-use paper hand towels and/or hand dryers;
    iii. be provided with an adequate flow of water at a suitable temperature (not too cold nor too hot);
    iv. be easily cleanable, and maintained in a clean condition;
    v. indicated with clear signage and not to be used for purposes other than hand washing.

Rationale:

Improper hand washing is a major contributing factor to outbreaks of foodborne illnesses. Provision of proper and adequate hand washing facilities is essential to minimize food contamination and maintaining personal hygiene. The temperature of the water should be suitable to encourage hand washing. If the water is too hot or too cold, employees might have a tendency to avoid hand washing.

While handwashing facilities may be available, food handlers might still refrain from washing hands when necessary. The senior management of the establishment must promote the right attitude and behavior expectations among the staff to ensure that handwashing habits are exceptionally good.

2.18 Toilet Facilities, Dressing, and Dining Areas

a. Adequate, suitable, and conveniently located toilets should be provided for food handlers. The following criteria should be considered:
   i. toilets should be conveniently located and accessible to workers during all hours of operation;
   ii. toilets should be completely enclosed and provided with a tight-fitting and self-closing door;
   iii. toilets should have a hand wash station equipped with liquid soap and single-use paper towels and/or hand dryers, and handwashing signage.
   iv. toilets should be easily cleanable, well-ventilated, and well-lit;
   v. toilets shall not open directly into a food area where food or packaging material is stored, handled, or packed;
   vi. when adjacent to a food area, the toilet should be separated with a double door and ventilated space.

b. Toilet rooms with access for the public, if provided within the food establishment, should be completely enclosed and separated from the food preparation and storage areas.

c. Dressing and changing areas should be provided if workers routinely change their clothes in the food establishment. Dressing and changing areas should be:
   i. easily cleanable;
   ii. well-ventilated and well-lit;
   iii. provided with lockers or other suitable facilities for the storage of workers' possessions and uniforms;
   iv. as much as possible, separate for male and female employees.

d. A suitable dining area should be provided for the workers to take their meals while at work. The dining room should be:
   i. be hygienic and well ventilated
   ii. be separated from any hazard (including noise, heat, atmospheric contaminants, and toilet facilities)
   iii. be completely separated from any work process

Rationale:

Employees require sufficient facilities that are easily accessible. However, these facilities must not pose a threat to food safety management. Good facilities can lift employee morale and better food safety outcomes.

Properly located and equipped toilet facilities are necessary to protect the equipment, facility and food from faecal contamination, which may be carried by insects, hands or clothing. Toilet facilities that are kept clean and in good repair, minimize the opportunities for the spread of contamination.

2.19 Cleaning Facilities

a. Every food establishment should have sufficient and suitable cleaning materials, equipment, and facilities to meet the cleaning requirements of the operation.
b. The service sink or curbed cleaning facility, equipped with a floor drain, should be conveniently located for the cleaning of mops or similar wet floor cleaning tools, and for the disposal of mop water and similar liquid waste. Such facilities should be located away from food handling areas.
c. Adequate storage facilities should be provided away from food handling areas to store brooms, mops, pails, and cleaning compounds. Toilets should not be used for storing cleaning materials or equipment.

Rationale:

Mop water and liquid wastes are contaminated with microorganisms and filth. A service sink or curbed cleaning facility with a drain allows for the sanitary disposal of this waste water in a manner that will not contaminate the food. Designated storage areas for brooms, mops, pails, etc., will assist in the sanitary operation of the premises.

2.20 Temporary Food Establishments

This requirement covers food establishments including mobile kitchens and kiosks, mobile food trucks, and food facilities in events, camps, and other external events that are temporary in nature. Prior approval or permit from the Food Safety Department (and any other concerned departments) is required to operate such food establishments.

a. Temporary food establishments shall meet the conditions specified in the food permit, and be operated with a trained and certified person in charge.
b. The food processes, control measures, and operational procedures specified in Clause 3 of this Code must be met at all times.
c. Food establishments should follow relevant temperature requirements and other handling and storage recommendations of this Code.
d. The operator of the establishment should ensure that food is sourced from a licensed food facility authorized to supply food to other food businesses as a part of their commercial activity.
e. When the food is supplied to a third party such as an event organizer, the food establishment that supplies the food should ensure that handling requirements of food are documented and clearly communicated to the person in charge of the event.

2.21 Vending Machines, Self-service, and Food and Beverage Dispensing Equipment

a. Equipment that dispenses or vends liquid food or ice in unpackaged form, the delivery tube, chute, and orifice should be designed in a way that:
   i. splashes and drips (including drips from condensation) are diverted away from the container receiving the food through barriers, baffles or drip aprons.
   ii. tubes, chutes and openings are protected from manual contact by being recessed.

b. Delivery tubes, chutes and openings shall be protected from dust, insects, rodents and other contamination by a self-closing door if the equipment is located outdoors and is not protected from rain, wind-blown debris, pests and other contaminants present in the environment.

Rationale:

For vending machines that dispense liquid food or ice, it is important to prevent the entry of condensate or splash, which may contaminate the food product. Food contact surfaces which divert liquid food into the receiving container need to be protected from contact by customers/people to prevent contamination of the food product. A self-closing door on outdoor machines or unsupervised machines further protects against accidental or malicious contamination.

2.21.1 Self-Service Beverages Dispensing Equipment

a. Self-service beverage dispensing equipment should be designed to prevent contact between the lip-contact surface of glasses or cups that are refilled and the dispensing equipment actuating lever.

b. Beverage equipment that utilizes carbonation equipment (CO_2) should incorporate a back-flow, back-siphonage prevention device (check valves) to prevent the migration of the carbonated beverage into copper water supply lines.

Rationale:

Through proper design of the dispensing equipment, contamination of the lip-contact surfaces of the refillable containers can be avoided, and the risk of cross-contamination reduced. As well, back-flow into water supply lines has resulted in incidents of copper poisoning after consumption of the dispensed beverage.

2.21.2 Vending Machines

Vending machines must be operated with a prior permit from the Food Safety Department. The following requirements apply.

a. Vending machines, self-service equipment, such as customer-operated juice and beverage processors, and ice dispensers should be designed to ensure the safety and integrity of the food dispensed.

b. Vending equipment should be designed for easy cleaning and maintenance.
c. Vending equipment should be located in a suitable and covered place where environmental interference is limited to protect the safety of the food. Depending on the type and nature of the food, exceptions apply for water and aerated soft drink dispensers located in public parks and facilities.
d. Vending machines shall be used only for pre-packaged foods where the food is registered and label assessed by the Food Safety Department.
e. Ready-to-eat foods such as portioned meals shall not be dispensed unless prior approval is obtained from the Food Safety Department. Such foods should be commercially prepared in facilities with a certified food safety management system. The operator in such cases should be able to demonstrate with evidence the effectiveness of the implementation of the food safety management system.
f. Equipment used for vending high-risk foods should have visible temperature displays, and a functional alarm, and or alert systems to inform the operator of any deviation in temperature requirement.

2.21.3 Vending of Beverages in Paper-Based Packaging

Vending machines designed to store beverages that are packaged in containers made from paper products should be equipped with diversion devices and retention pans or drains for container leakage.

2.21.4 Vending of High-Risk Foods

A machine vending high-risk foods shall have an automatic control that prevents the machine from vending food if there is a power failure, mechanical failure or other condition that results in an internal temperature that cannot maintain the food temperature required in this Code.

Note: The automatic control shall prevent the machine from dispensing food until it is restocked and can maintain food at the required temperatures.

Rationale:

Vending machines require a "fail-safe" device that would prevent the dispensing of high-risk foods in the event of mechanical or power failures which could subject them to temperature abuse.

2.22 In-house Bottling of Drinking Water

The following general rules apply to food service businesses that provide drinking water in 'sealed' reusable bottles that are filled in-house in a bottling machine. The requirements do not apply to filtered water served in serving containers such as jugs.

a. There should be sufficient space to operate the filling station, and facility to store empty and filled bottles.
b. Sufficient facilities and equipment shall be available to clean and disinfect equipment and bottles.
c. The filling station shall be suitably designed for cleaning and maintenance, and set up in a way that prevent possible contamination of clean bottles and drinking water.
d. Bottles should be suitable for reuse and made of safe and durable material that can withstand cleaning and disinfection process. An assessment of suitability must be carried out before the bottle is used.
e. Bottles must be cleaned and disinfected before filling. The cleaning process must be validated, verified, and monitored to ensure that the food safety objectives are met and the facility shall implement a procedure to check the presence of any chemical residues.
f. Filled bottles shall be tightly sealed immediately after filling, using clean and sterile caps.
g. The process of in-house bottling of water should be a part of the food safety management system and the process analysis specifically be addressed in the HACCP plan. Microbiological and chemical verification protocols for the system should be based on the requirements of the food safety management system.
h. Re-usable water bottles shall be clearly labeled as "Filtered Tap Water." The date of filling (production) shall be mentioned on the label.
i. Water should be tested as per the UAE.S GSO 1025 standard for bottled drinking water periodically as a part of the verification program for microbiological and chemical safety. The frequency of testing shall be based on risk assessment conducted as a part of establishing the food safety management system.
j. All preventative maintenance, machine cleaning, filter changing, and routine maintenance shall be documented.
k. Bottled water and bottles used for filling should be stored:
    1. Away from any poisonous materials and contamination sources.
    2. In good and well-ventilated store free from distinctive odors.
    3. Away from direct sunlight and high temperature.

Rationale

Adequate precaution must be taken prior to filling, during filling, and while storage to ensure that water is free from any contaminants. In-house bottling process, when uncontrolled, can lead to contamination of water and put the consumer at risk. Use of bottles made of unsafe material can put the consumer at risk. Biofilms are formed easily in equipment that are poorly designed for cleaning and maintenance. Such biofilms can impact the safety of water. It can be difficult to clean poorly designed bottles.

3 Control of Hazards in Food

Final Draft

Clause 3 of the Food Code is based upon the principle that food safety is best ensured through the identification and control of hazards in the production and handling of food as described in the Hazard Analysis and Critical Control Point (HACCP) system, adopted by the joint WHO/FAO Codex Alimentarius Commission.

3.1 Management of Food Safety

The operator of the food establishment is responsible for the safety and suitability of food produced or handled by the establishment. The management shall ensure that the requirements of laws and regulations on food safety are met. Compliance with these requirements enables the food establishment operators to demonstrate their commitment and their responsibility concerning the production and supply of safe products. The Food Safety Department requires all food establishments to implement a risk-based food safety management system where hazards and risks are identified by the food establishment and appropriate control measures are established based on the relevant clauses of this Code. Where new hazards and risks emerge, food establishments shall in their management system address how the hazards and risks will be managed based on scientific assessment. Control measures listed in this section of the Code should be validated in the context of the daily operations and where necessary more specific control measures should be applied along the food supply chain based on risk assessment.

3.1.1 Management – Person in Charge

a. All food establishments shall employ at least one (1) full-time, on-site Person in Charge (PIC) certified in food safety.
b. The number of PICs required in a food establishment should be estimated based on the nature and extend of the processes and the risk associated with the processes. In addition to that,
    - all food establishments that prepare high-risk foods shall have at least one active PIC during all work shifts;
    - food establishments that prepare food for high-care facilities such as hospitals, schools, nurseries and daycare facilities and food for vulnerable populations such as elders shall have one certified PIC during the entire duration of production and the point of delivery and service.
c. The PIC shall actively oversee all operations that could impact the safety of the food and shall be fully responsible for food safety.
d. Each certified PIC shall possess knowledge of food safety principles and practices relevant to their operation and complete the assessment criteria acceptable to the Food Safety Department.

e. If the employment of a PIC is terminated, food establishments can take up-to thirty (30) days to designate a new PIC. The proposed PIC should enrol in the training program and be certified within 45 days.
f. PIC shall register in the relevant digital food safety system provided by Dubai Municipality and actively manage the designated tasks. Users of the system shall not share user credentials and access with anyone else.

3.1.2 Roles and Responsibilities of the Person in Charge

a. The PIC should be competent and have appropriate knowledge about food safety risks associated with the type and nature of the food business.
b. The PIC should ensure that the establishment maintains policies and procedures for all employees to follow and to assure the production, sale, and/or dispensing of safe food products.
c. The PIC should provide effective supervision of safe food practices, conduct regular inspections of the food establishment, address potential food risks, and, where necessary, take appropriate corrective action.
d. The PIC should maintain measures of accountability to meet food safety responsibilities by ensuring that:
    1. all employees are trained before they start of work; and
    2. trained employees are competent and are carrying out responsibilities as required. Training should be provided based on the criteria stipulated under Clause 6 of this Code.
e. Where digital tools are provided by Dubai Municipality, PIC shall use digital tools to record food safety observations and initiate and manage the subsequent actions intended for correction and prevention. Digital tools should be used for reporting and documenting actions such as but not limited to:
    i. reporting pest infestation and managing onsite work of pest contractors
    ii. reporting illness among employees and managing exclusion from work
    iii. reporting and managing incidents related to food deliveries
    iv. reporting incidents related to food transportation vehicles
    v. reporting and managing food equipment-related issues
    vi. reporting and managing issues related to food processes

3.1.3 Food Safety Management Systems

a. All food establishments in Dubai should implement and maintain a Food Safety Management System (FSMS) based on Codex principles of Hazard Analysis and Critical Control Point (HACCP). The food safety management system should include the control of both general and specific hazards through the implementation of food safety practices based on this Food Code and the HACCP requirements.

b. As a part of establishing an effective food safety management system, the establishment shall
   i. undertake a risk-based approach to manage food safety based on the principles of HACCP
   ii. provide a processing environment that ensures that the risks of product contamination are minimized
   iii. ensure that products are safe and consistent with the requirements of relevant standards and specifications
   iv. ensure that their suppliers are competent to produce the specified product, comply with legal requirements; have implemented a risk-based food safety management system;
   v. take active measures to obtain customer feedback, monitor and act upon customer complaints
   vi. evaluate and improve the food safety management system continuously

c. By implementing a food safety management system, foods establishments shall be able to:
   i. demonstrate the ability to consistently provide safe foods and products and services that meet the requirements of the Food Code, applicable local and regional regulations, relevant standards and the requirements of their customers;
   ii. provide evidence of effective communication of food safety risks to Dubai Municipality and interested parties identified in the system and, demonstrate conformity to the specified requirements of the Food Safety Management System to Dubai Municipality and to the consumers (if needed).
   iii. provide evidence of commitment to food safety from key decision-makers in the food establishment such as the owners and/or senior management representatives. Such evidence should include a strong commitment to food safety culture including communication, training, employee engagement, and performance measurement of the food safety management system.

d. Where mandated by the Food Safety Department, the food establishment shall use new and evolving technologies to digitalize the food safety management system as much as practically possible and utilize data for trend analysis, process optimization, and continuous improvement

3.1.3.1 Requirements of Food Safety Management System

a. As a prerequisite to the implementation of the food safety management system, the food business shall establish and maintain facilities and operational programs necessary to create an environment suitable to produce safe and legal food products.

b. The food establishment should as a part of the system, develop a full description for each product or group of products, which includes all relevant information on food safety. This should include:
    - composition (e.g. raw materials, ingredients, allergens, recipe)
    - physical or chemical properties that impact food safety (e.g. acidity, water activity)
    - treatment and processing (e.g. cooking, cooling)
    - packaging system (e.g. modified atmosphere, vacuum)
    - storage and distribution conditions (e.g. chilled, ambient)
    - maximum safe shelf life under prescribed storage and usage conditions
    - evidence of product registration with Dubai Municipality

    Note: Products can be grouped based on process only if the consistency of the process and ingredient specifications is assured.

c. All relevant information needed to conduct the hazard analysis shall be collected, maintained, documented, and updated. The food establishment should ensure that the HACCP plan is based on comprehensive information sources, which are referenced and available on request. As a guide, the references may include the following:
    - the latest scientific literature
    - historical and known hazards associated with specific food products and processes
    - relevant legislations, standards, and recognized guidelines

d. The food establishment shall have a fully implemented and effective HACCP plan incorporating the Codex Alimentarius's HACCP principles.

e. The HACCP plan shall be developed and managed by a competent multi-disciplinary food safety team with a team leader who has in-depth knowledge of Codex's HACCP principles and relevant knowledge of products, processes, and associated hazards. In food establishments that do not have the appropriate in-house knowledge, external expertise may be used to develop the HACCP plan and to ensure that the plan is updated. Day-to-day management of the food safety system shall remain the responsibility of the food establishment.

f. The food business shall establish and maintain environmental and operational programs necessary to create an environment suitable to produce safe and legal food products (good hygiene practices or prerequisite programs).

g. The HACCP food safety team shall as a part of the food safety management system identify and record all the potential hazards that are reasonably expected to occur at each step in relation to product, process, and facilities. This shall include hazards present in raw materials, those introduced during the process or surviving the process steps, and consideration of the following types of hazards:
    - microbiological contamination
    - physical contamination
    - chemical and radiological contamination
    - fraud (e.g. substitution or deliberate/intentional adulteration)
    - malicious contamination of products
    - allergens

    The team also take account of the preceding and following steps in the process chain.

h. The team should conduct a hazard analysis to identify hazards that need to be prevented, eliminated, or reduced to acceptable levels. Consideration shall be given to the following:
    - likely occurrence of hazard
    - the severity of the effects on consumer safety
    - vulnerability of those exposed
    - survival and multiplication of micro-organisms of specific concern to the product
    - presence or production of toxins, chemicals, or foreign bodies
    - contamination of raw materials, intermediate/semi-processed products, or finished products.

    Where elimination of the hazard is not practical, a HACCP plan should have justification for acceptable levels of the hazard in the finished product

i. The HACCP plan should detail the control measures necessary to prevent or eliminate a food safety hazard or reduce it to an acceptable level. Where the control is achieved through existing prerequisite programs, this shall be stated, and the adequacy of the program to control the specific hazard validated. Consideration may be given to using more than one control measure.
    i. For each hazard that requires control, control points shall be reviewed to identify those that are critical. This requires a logical approach facilitated by the use of a decision tree.
    ii. Critical control points (CCPs) shall be those control points that are required to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
    iii. If a hazard is identified at a step where control is necessary for safety, but the control does not exist, the product or process shall be modified at that step, or at an earlier step, to provide a control measure.

j. For each CCP, the appropriate critical limits shall be defined to identify clearly whether the process is in or out of control. Critical limits shall be:
    - measurable wherever possible (e.g. time, temperature, pH)
    - supported by clear guidance or examples where measures are subjective (e.g. photographs).

k. The HACCP food safety team shall validate each CCP. Documented evidence shall show that the control measures selected and critical limits identified are capable of consistently controlling the hazard to the specified acceptable level.

l. A monitoring procedure shall be established for each CCP to ensure that the process is operating within the critical limit. The monitoring system shall be able to detect loss of control of CCPs in real-time, and provide information in time for corrective action to be taken.

m. Monitoring devices must be appropriate and produce an accurate record for future use in the verification. Monitoring can be continuous using technology tools such as IoT devices or discontinuous. Where discontinuous measurement is used, the monitoring should be carried out at a frequency sufficient to ensure process control and be representative of the batch of the product.

n. Records associated with the monitoring of each CCP shall include the date, time, and result of measurement and shall be signed by the person responsible for the monitoring and verified, when appropriate, by an authorized person representing the food safety team. Where records are in electronic form, there shall be evidence that records have been checked and verified.

o. The HACCP food safety team shall specify and document the corrective action to be taken when monitored results indicate a failure to meet a control limit, or when monitored results indicate a trend toward loss of control. This shall include the action to be taken by nominated personnel concerning any products that have been manufactured during the period when the process was out of control.

p. Procedures of verification shall be established to confirm that the HACCP plan, including controls managed by prerequisite programs, continues to be effective. The results of verification shall be recorded and communicated to the HACCP food safety team. Examples of verification activities include:
    - internal audits
    - review of records where acceptable limits have been exceeded
    - review of complaints by enforcement authorities or customers
    - review of incidents of product withdrawal or recall.

q. Documentation and record-keeping shall be sufficient to enable the site to verify that the HACCP and food safety controls, including controls managed by prerequisite programs, are in place and maintained.

r. Food safety team shall review the HACCP plan and prerequisite programs at least annually and before any changes which may affect food safety. As a guide, these may include the following, although this is not an exhaustive list:
    - change in raw materials or supplier of raw materials
    - change in ingredients/recipe
    - change in processing conditions, process flow or equipment
    - change in packaging, storage or distribution conditions
    - change in consumer use
    - emergence of a new risk (e.g. known adulteration of an ingredient or other relevant, published information, such as the recall of a similar product)
    - review following a recall
    - new developments in scientific information associated with ingredients, process or product.

s. Appropriate changes resulting from the review shall be incorporated into the HACCP plan and/or prerequisite programs, fully documented and the validation recorded. Where appropriate, the changes shall also be reflected in the company's product safety policy and food safety objectives.

t. To update and improve the system, the Food Safety Team shall analyze data trends in monitoring and measuring activities for any indicators of potentially unsafe products or process failures. The team must also evaluate the results of verification activities of the HACCP plan and internal and external audits and determine if the performance of the system meets the objectives.

u. Development of a HACCP-based system may identify the need for changes in processing parameters, in processing steps, in manufacturing technology, in end product characteristics, in method of distribution, in the intended use or in the way relevant clauses of the Food Code are applied in the establishment. HACCP-based system should be capable of accommodating change, such as advances in equipment design, processing procedures or technological developments.

Note: Requirements specified in the Food Code are consistent with Pre-requisite Programs (PRPs) and Good Hygiene Practices (GHPs) recommended by CODEX. In the absence of a relevant clause in the Food Code, CODEX guidelines, or other references from recognized food safety authorities or trade associations can be considered for establishing the food safety management system.

3.1.3.2 Audit and Certification of the Food Safety Management System

a. Food establishments must ensure that compliance with food safety management systems is verified through a process of a systematic audit that is performed at least once annually. The audit process should include a review of documents, records, and an onsite verification of the system based on clearly defined criteria and scope.
b. Compliance verification for the system must include the audit of the entire process within the food facility from raw materials to end-product dispatch. The audit shall not exclude parts of the process carried out at the specific site, or is connected with the same business name or license number. Where exclusions are accepted by the Food Safety Department, the auditor shall assess any hazards presented by excluded areas and include in the report any risks posed by the activities or processes in the excluded area.
c. First, Second or Third-Party audits shall be managed, conducted and reported based on ISO 19011:2018 Guidelines for Auditing Management Systems. The audit should be performed by a Technical Expert registered with Dubai Municipality and must have relevant authorizations to perform the audit.
d. Auditor(s) must be appropriately trained, competent, and impartial. The auditor shall have good auditing skills and sound knowledge about audit principles, regulatory requirements, necessary information about the auditee and their business activities, and digital and data competency to use and utilize digital platforms from Dubai Municipality for the audit. Auditors must also be able to provide evidence of continual development necessary to update their knowledge and skills.
e. The food establishment shall retain a copy of the audit reports with details of audit findings, nonconformity reports and correction and corrective actions reports for at least 3 years after the report has been issued.
f. Certification bodies provide details of the certification including the information about the scope and validity of the certification in digital format to the Food Safety Department.
g. Certifications will be considered as invalid under the following conditions
    i. When certification body withdraws or suspends the certification for not meeting the requirements for certification
    ii. When the establishment has a D grade in food inspection for more than 2 weeks following the inspection.
    iii. When the food establishment has critical food safety violations that could directly impact food safety health.

    If the certification is suspended or withdrawn, the certification body shall notify the Food Safety Department within 5 working days.

h. Mandatory Third-Party Certification: A third-party food safety management system certification based on compliance with ISO 22000:2018 or Codex principles of Hazard Analysis and Critical Control Point (HACCP) is mandatory for food establishments involved in the following food activities:
    i. food establishments that carryout outdoor catering;
    ii. establishments that cater to day-care facilities, schools, hospitals
    iii. staff accommodations and employee canteens operated by caterers
    iv. food manufacturing facilities
    v. four and five-star hotels

vi. any other establishments specifically mandated by the Food Safety Department based on the risk assessment process.

i. Third-party audits and certifications of food establishments shall be conducted by a certification body accredited by the Emirates International Accreditation Centre (EIAC).

j. Food establishments that do not fall under the mandatory category for third-party certification shall demonstrate compliance to the requirements of the food safety management system by:
    i. maintaining a HACCP-based system which is consistent with the seven principles of HACCP and takes into account the risk associated with specific products and processes
    ii. recording monitoring results in digital form when there is a deviation instead of every monitoring
    iii. Conducting periodic verification of the system and evidence it by documented reports
    iv. conducting an internal or external assessment of the system by a first or second-party auditor
    v. Utilize corrections and corrective actions when monitoring, verification or audits to identify problems and deviations

3.2 Food Handling and Processing

3.2.1 General Requirements for Processing Food

Food establishments shall take all practicable measures to process only safe and suitable food. Food establishments when processing food should Take all necessary steps to prevent food from being contaminated.

3.2.2 Food Source

A food establishment shall take all practicable measures to ensure that the source of food is safe. The food business operator should identify source-related risks associated with foods and ingredients; provide food safety and quality specifications to the suppliers; and establish procedures to verify and monitor food deliveries to ensure that the specifications are met.

3.2.2.1 Approved Sources

Food establishments shall obtain food and food ingredients from sources that are approved by Food Safety Department. Approved food sources are establishments that are licensed to operate in the United Arab Emirates and are inspected by the local regulatory authority.

a. Food establishments should maintain sufficient information related to food; the name, and business address of the supplier, vendor, manufacturer or packer, or the importer from where the food or ingredient was sourced.
b. Food establishments that serve raw or lightly cooked food (such as raw oysters, sushi, kebeneyah, steak tartar, and carpaccio should obtain detailed information about the supply chain. The supplier should have a verifiable food safety management system to assure the safety and quality of the product.

c. Food establishments shall ensure that all their suppliers are registered on the Foodwatch platform and that the relevant business activities have been declared and approved by the system.

Note: If food business operators are involved in the direct purchase of products from the fresh markets in UAE, the purchase should be done by a competent buyer, and documentations maintained to ensure full traceability.

Rationale:

Safe food starts with reputable and reliable food suppliers who meet food hygiene and safety standards. These suppliers operate in a manner that prevents and controls contamination of foods and ensure the foods are safe for human consumption.

3.2.2.2 Unapproved Sources

Food prepared in unlicensed private homes, unlicensed establishments, mobile vendors, open trucks or any other place, which is not approved by the Food Safety Department, shall not be offered commercially for human consumption. Foods that are sold online by businesses that are not authorized to sell products online shall not be used.

3.2.3 Food Receiving

Foods that are imported to the different Emirates are inspected by the respective local authorities at the port and then released to the market. The importing establishment should follow instructions provided at the time of the release and the retail establishments should verify the release documents. Food establishments should always verify that their supplies are delivered safely. The receiving of food items shall be performed in a protected and clean area.

3.2.3.1 Inspection of Incoming Food

a. Inspection should be carried out at the time of receipt of food from the supplier to ensure that:
    i. Food and packaging are free from visible damage, pests, and other contaminants.
    ii. Food is in an appropriate condition for the intended use.
    iii. Food is received with appropriate documents.
    iv. Food is transported in a suitable vehicle approved by the concerned authority, and the permit to transport food is verifiable digitally.
b. Foods that require temperature control for safety are to be delivered at temperatures stipulated in clause 3.4 of this Code.
c. Food containers and packages should be intact and free from damage.
d. Food items should be registered with Dubai Municipality and labelled adequately with ingredient, date coding etc.
e. If the food is pre-packaged, the time gap between the date of receiving and the expiration date should be sufficient to use the product and avoid wastage of stock.
f. Unacceptable food should be returned, and the details should be digitally recorded for further action by the supplier.
g. Food products should be quickly moved into storage after the inspection.

Rationale:

Food contaminated with pathogenic microorganisms, chemicals and foreign matters may compromise food safety. Therefore, food establishment should not accept food known (or suspected) to be contaminated with these substances.

Most pathogenic bacteria grow and multiply rapidly at temperatures between 5°C and 60°C. At temperatures lower than 5°C and higher than 60°C, bacterial growth slows down or stops. However, there are bacteria that can grow slowly up to a temperature of -2°C and most bacteria can survive cold temperatures and resume multiplication later when conditions become suitable again. This range of temperatures between 5°C and 60°C is normally called the TEMPERATURE DANGER ZONE. High-risk food may be contaminated by pathogenic bacteria which can multiply to dangerous levels at ambient temperatures. High-risk food should be kept at or below 5°C, or at or above 60°C during delivery to prevent growth of these bacteria. The temperature of the food may go up during the delivery time, but this time should be as short as possible.

Freezing is a process in which the temperature of a food is reduced below its freezing point and the majority of the water inside the food undergoes a change in state to form ice crystals. Freezing preserves food for extended period of time by preventing the growth of micro-organisms that cause food spoilage and foodborne illnesses. To maintain the quality of frozen food, a temperature of –18°C or less is preferred.

3.2.3.2 Product Identification

a. All food products received at the food establishment should be transported in accordance with the requirements specified in this code, have their packaging intact, and the food labels comply with the approved UAE Standards.
b. Invoices, receipts, and lot coding information should be retained to allow tracking of unlabeled products (such as raw fish, oyster, carcasses, produce or bakery products) or split lots.
c. In retail food service establishments such as restaurants and catering establishments, if the original packaging of the food is removed after receiving, the same production and expiration dates on the original label should be marked on the new label. The establishment should have a documented internal policy for date marking of products that are stored after the removal of the original packing. However, the foods that are consumed or heat processed on the same day as a continuous process are exempted from this requirement.

3.2.3.3 Ingredient Inspection and Control

a. All ingredients used in food preparation should be inspected prior to their use.
b. Any ingredients that are off-color, have strange odors, show evidence of pest contamination or suspected to be contaminated in any other manner should be discarded.

Rationale:

A food establishment should be able to identify the food that they have in the premises in order to facilitate tracing products in the event of a recall or a food incident. The information can be obtained from an invoice, receipt or the packaging of the food when necessary and such documents should be retained for a duration not less than the shelf life of the product.

3.2.4 Handling Raw Food

a. Raw and ready-to-eat foods should be kept separate at all times. Contamination of ready to eat foods should be prevented using methods outlined in clause 3.5 of this Code.
b. Fruits and vegetables that are consumed raw should be cleaned and disinfected using a chemical disinfectant or any other process approved by the Food Safety Department.

3.2.5 Handling of Chilled and Frozen Food

a. Food establishments shall meet the provisions of clause 3.4 of this Code during receiving, storage and preparation of frozen and chilled foods.
b. Provisions of clause 3.3 should be used during the preparation and handling of high-risk foods at ambient temperature. It is strongly recommended that areas used for preparation of cold high-risk foods should be maintained at 20°C or below to minimize the time food is exposed to temperature that support bacterial multiplication.

3.2.6 Thawing

Frozen foods should be thawed (or defrosted) quickly in a manner that will prevent the rapid growth of pathogenic and spoilage bacteria. The risk associated with typical defrosting processes for frozen raw foods intended for subsequent heat treatment is minimal, specific control measures shall be established for frozen foods that are not heat processed before consumption.

a. When thawing ready to eat frozen foods, the warmest portion of the food shall not rise above 5°C and the food should be used within 48 hours from the time of start of thawing.
b. Frozen raw meat, poultry and fish can be thawed under refrigeration at air temperature of 10°C or less, or under cold running water of temperature less than 21°C, as long as the product core temperature does not exceed 5°C. Thawed product that is not cooked immediately should be stored below 5°C and must be cooked within 72 hours from the time of the start of thawing.
c. Frozen raw meat, poultry and fish when cooked immediately after thawing, can be thawed using methods where the thawed portions of the foods are above 5°C. The time period above 5°C, including the time for preparation prior to cooking should not exceed 4 hours.
d. Raw meat, fish or poultry thawed at a temperature that does not exceed 5°C can be refrozen after specific processes based on a documented procedure based on the principles of HACCP. However, refreezing must be restricted to products that will be cooked fully to ensure microbiological safety.
e. During the process of thawing, the microbiological count should not exceed the limits specified in the relevant product standard.

Note: *Hazards associated with thawing include cross-contamination from drip and growth of micro- organisms on the outside before the inside has thawed. During thawing, fluids shall be separated from the thawed product; Containers with strainers can be used in order to extract all the drippings from the meat/poultry and collected safely for safe disposal. Defrost liquid shall properly entrap to drainage. Thawed meat and poultry products should be checked frequently to make sure the thawing process is complete before further processing or the processing time should be increased to take into account the temperature of the meat.*

Rationale:

Freezing prevents microbial growth in foods, but will not destroy most microorganisms. Improper thawing provides an opportunity for surviving bacteria to grow to harmful numbers and/or produce toxins. Complete thawing of raw food helps to prevent undercooking. Freezing and thawing reduces the quality of products and thus should be restricted as much as possible. Thawing foods as part of the cooking process is appropriate where thorough and timely cooking can be ensured. Foods typically cooked from the frozen state include single portion foods such as meat patties and chicken nuggets as well as pizzas and vegetables. It is safer to completely thaw larger portions of frozen raw foods (e.g. chickens and turkeys) before cooking to ensure the internal cooking temperature required is reached.

3.2.7 Cooking Raw Foods of Animal and Plant Origin

a. The time and temperature for cooking raw foods of animal origin and for products that have raw foods of animal origin as ingredients should be sufficient to reduce food borne pathogens to an acceptable level.
b. Unless a legal specification for a heat process exists in the food standards published by the Emirates Authority for Standardization and Metrology (ESMA), raw foods and foods with ingredients from animal origin shall be cooked to a time and temperature combination of 70°C for 2 minutes. The other equivalent time and temperature combinations are:
   - 60°C for 45 minutes
   - 65°C for 10 minutes
   - 70°C for 2 minutes
   - 75°C for 30 seconds
   - 80°C for 6 seconds

   The nature of the product, especially the changes in the mode of heat transferring due to physical changes in food must be taken into consideration when defining the equivalent time and temperature requirements.
c. Where risk assessment of intrinsic controlling factors in the product indicates that the growth and toxin production of Clostridium botulinum or other spore-forming bacteria is a particular risk, the product must be cooked at a time and temperature combination equivalent to 90°C for 10 minutes, to achieve a 6-D reduction in numbers of non- proteolytic *Clostridium botulinum* Type B. Products, which may provide such conditions, may include; sous vide products and other products, which may present anaerobic conditions, e.g. modified atmosphere (MAP), or vacuum-packed products.

   Note: The absence of intrinsic controlling factors and an anaerobic environment will allow growth of spores of C. botulinum. The controlling factors are: pH of less than 4.5 throughout the food, Salt level of 3.5% (aqueous) throughout the food, Water activity (aw) of 0.97 or less throughout the food.

d. Plant foods should be cooked to a temperature of 72°C or above.

e. Temperature of cooking must be verified by a thermometer or a suitable measuring device by placing the probe in the thickest part of the food. When probe thermometers are used, cooking temperature should be checked regularly by inserting a calibrated and disinfected thermometer into the slowest heating point, normally the core of a product. Records for cooking must be maintained based on a sample-based approach.

> Rationale:
>
> Listeria monocytogenes is considered as the most heat resistant, foodborne pathogen that does not form spores. Therefore, other non-spore forming vegetative pathogens such as Salmonella spp., S. aureus, Y. enterocolitis, V. parahaemolyticus and E. coli O157 that are present in the food should also be destroyed by a 6-D heat process. To kill microorganisms, food should be held at a required temperature for specified time. Different species of microorganisms have varying susceptibilities to heat. As well, food characteristics affect the lethality of cooking temperatures. To kill all pathogens in food, cooking should bring all parts of the food up to the required temperatures for the correct duration. Some aspects that are taken into consideration include: heat penetrates into different foods at different rates; high fat content in food reduces the effective lethality of heat; high humidity within the cooking vessel and the moisture content of food aid thermal destruction; and, heating a large roast too quickly with a high oven temperature may char or dry the outside, creating a layer of insulation that shields the inside from efficient heat penetration.

3.2.8 Canning

Low-acid canned foods should be cooked to a temperature of 121°C for a minimum of 3 minutes or subject cans to an equivalent process that would ensure the destruction of spores of *Clostridium botulinum*.

3.2.9 Safety of Oils and Fats

Oils shall be fit for human consumption for the duration of their use, whether they are used for one time, or multiple times. This clause deals specifically with practices aligned to achieve the federal national health objectives to reduce food related exposure of Tran's fatty acids (TFA), Acrylamides and Polycyclic aromatic hydrocarbons (PAH).

a. Foods with partially hydrogenated vegetable oils, shortenings, or margarines that contain Tran's fatty acids shall not be used, or served in food establishments.

b. Cooking oils that have more than 28 % Total Polar Compounds (TPC) should not be used for frying foods. TPC shall be monitored in food businesses that fry foods regularly using accurate monitoring devices.
c. Free Fatty Acids (FFA) in oil shall not exceed the limits specified in the National Standards.
d. Proper use of deep-frying oils and utensils that can stand very high temperatures to ensure food safety and slow down oil deterioration.

3.2.10 Heat Treated Non-Ready-to-Eat (NRTE) of Animal Origin

The following requirements apply to the products that have been heated to improve the flavor and texture of the product, but the process does not result in a ready-to-eat product. In all cases, the products must be cooked before consumption.

a. The establishment shall have adequate controls in place to minimize all the hazards during production and processing.
b. Minimum thermal lethality shall not be required for such products. However, labeling of the product to prevent it from being mistaken for a cooked RTE product must clearly indicate but not be limited to:
   - statement or words like "must be cooked", "raw product", "uncooked" or any equivalent word or statement to indicate that the product requires heat treatment or cooking before consumption; and
   - Comprehensive instruction of preparation or cooking.
c. Manufacturers should validate the instruction of preparation or cooking to ensure that process will results in minimum thermal lethality mentioned in clause 3.2.8.

3.2.11 Hot Holding

a. Cooked foods to be served hot shall be held at a temperature of 60°C or above.
b. Appropriate hot-holding devices should be used to maintain high-risk foods at the correct temperature.

Note: *Surface cooling of hot food can be controlled by keeping hot food covered as much as possible. To minimize the loss of the organoleptic properties and nutritional quality of the food, it is recommended that food should be kept at or above 60°C for not more than 4 hours.*

Rationale:

No pathogenic bacteria multiply in food that is at 60°C or above. Care must be taken to ensure that the food is evenly heated.

3.2.12 Cooling after Cooking

a. Cooked high-risk foods intended to be kept under refrigerated storage prior to serving, shall be cooled from 60°C to 20°C or less within two hours and then from 19°C to 5°C or less within 4 hours (total 6 hours).
b. In food service facilities such as restaurants and catering facilities that sell food directly to consumers, foods that are rapidly cooled and refrigerated should be consumed within 72 hours.
c. Food facilities that manufacture and commercially package ready to eat foods can extend the shelf life of chilled foods with prior approval from the Food Safety Department. The shelf life of such products must be validated if stored for more than 3 days. The establishment shall estimate the shelf life of the product based on the relevant provisions under Section 7 of this Code.
d. To estimate, set and validate the shelf-life more than 72 hours requires laboratory testing to be carried out under realistic conditions which mirror reasonably, foreseeable conditions of storage, distribution and use, i.e. in particular storage temperature. While testing, consider temperature abuse and justify which temperatures are used, taking into account available data from temperatures during storage, transport and storage and handling by consumers.
e. If the food is frozen after cooking, the food should be rapidly cooled in a blast chiller and then frozen as a continuous process.
f. Products that are rapidly chilled or frozen must be labeled with date that indicates clearly the 'Date of Chilling' or the 'Date of freezing.' When frozen foods are defrosted, the product should be labeled with Date of Freezing as well as 'Date of (start) defrosting'

Note: *There are some ways that can help to cool food rapidly: reduce the volume of the food by dividing it into smaller portions and / or placing it in shallow containers; cut large joints of meat and poultry into smaller chunks before cooking. When cooling equipment is used, ensure there is space around the food containers so that the cold air in the refrigerator or cool room can circulate freely.*

Blast chillers and blast freezers are designed to meet the time and temperature targets specified in the requirement. However, verification should be done to ensure that the requirements are met.

Rationale:

Temperatures achieved during cooking should be sufficient to destroy vegetative cells of pathogens; however, some spores are unaffected. In some cases, cooking activates spores, which may germinate during subsequent cooling.

Excessive time for cooling of high-risk food is one of the key contributing factors to foodborne illnesses. During extended cooling, foodborne pathogens that may contaminate cooked food or developed from surviving spores may grow to a sufficient number (and / or produce toxins) to cause illnesses. By reducing the cooling time, the risk for pathogenic bacteria to grow to a dangerous level (and / or producing toxin) will be minimized.

If the cooking step prior to cooling is adequate and no recontamination occurs, all but the spore-forming organisms such as *Clostridium perfringens* should be killed or inactivated. However, under poorly monitored conditions, other pathogens such as Salmonella may be reintroduced. Thus, cooling requirements have been based on growth characteristics of organisms that grow rapidly under temperature abuse conditions.

Large food items such as roasts, turkeys and large containers of rice, take longer to cool because of the mass and volume from which heat shall be removed. By reducing the volume of the food in an individual container, the rate of cooling is dramatically increased and opportunity for pathogen growth is minimized. Commercial refrigeration equipment is designed to hold cold food, not to cool large masses of food.

3.2.13 Cooling from Room Temperature

When high-risk foods are prepared at room temperature and kept under refrigerated storage prior to serving, they should be cooled from room temperature to 5°C or less within 4 hours. This includes those foods whose ingredients were canned or made from reconstituted foods.

3.2.14 Reheating Cooked Foods for Hot Holding

Cooked foods that are cooled and stored at 5°C and are intended to be held and served hot should be reheated until it reaches an internal temperature exceeding 75°C within a heating time not exceeding one hour.

Rationale:

Pathogenic bacteria may be present in cooked food due to germination of surviving spores or post- contamination after cooking. These pathogens can grow during cooling and cold storage. Proper reheating provides a major degree of assurance that pathogens will be eliminated. It is especially effective in reducing the numbers of *Clostridium perfringens* that may grow in meat, poultry or gravy if these products were improperly held. The generation time for C. *perfringens* is very short at temperatures just below adequate hot holding.

The potential for growth of pathogenic bacteria is greater in reheated foods than in raw foods. This is because spoilage bacteria, which inhibit the growth of pathogens by competition on raw products, are killed during cooking. Subsequent recontamination will allow pathogens to grow without competition if temperature abuse occurs.

It should be noted that reheating could not make high-risk food safe if it has not been cooled properly or protected from contamination. This is because some pathogenic bacteria (such as Bacillus cereus, *Staphylococcus aureus etc*) may continue to multiply and produce heat stable toxins under such circumstances. Reheating such food to 75°C cannot destroy the toxins.

Cooked food that has been reheated should not be cooled and reheated for a second time to avoid it from repeatedly exposed to temperatures that can support the growth of pathogenic bacteria.

3.2.15 Reheating Cooked Food for Immediate Service

a. Cooked foods that are cooled and stored at 5°C, can be reheated once only and served, if for immediate consumption, at any temperature, provided the time the food spent between 5°C and 60°C does not exceed 2 hours.
b. Reheated cooked foods should not be re-cooled for further use.

Rationale:

Many foods are at risk during preparation and service. As foods are thawed, cooked, cooled, reheated, held and served, they pass several times through the temperature danger zone. The duration of time that cooked foods are in the danger zone will have an impact on the safety of the product.

3.2.16 Use of Microwave for Cooking or Reheating

Cooked and cooled food should be rotated or stirred throughout or midway if reheated in the microwave oven. The same practice should be done during cooking to compensate for uneven distribution of heat, and allowed to stand covered for a minimum of 2 minutes after cooking to obtain temperature equilibrium.

Rationale:

The rapid increase in food temperature resulting from microwave heating does not provide the same cumulative time and temperature relationship necessary for the destruction of microorganisms as do conventional cooking methods.

Since cold spots may exist in food cooking in a microwave oven, it is critical to measure the food temperature at multiple sites when the food is removed from the oven, and then allow the food to stand covered to allow thermal equalization and exposure.

3.3 Time as a Safety Control

High-risk foods should be stored under temperature control at all times. However, time can be used as a safety measure in the following conditions during exceptional situations where temperature control is not possible. However, food service establishments that routinely hold food before service must use temperature control for safety.

a. High-risk hot foods that are intended for immediate consumption shall not be stored, displayed or held for service at temperatures between 5°C and 60°C for a period of more than 2 hours. The food product shall be discarded after that time. High-risk cold foods that are intended for immediate consumption shall not be stored, displayed or held for service at temperatures between 5°C and 60°C for a period of more than 4 hours including the time of preparation. The food item should be discarded after that time. After preparation, the food should be quickly chilled to 5°C before it is displayed.
b. Foods stored without temperature control under section (a) should be clearly labelled with the time of expiration to indicate the time when the food has to be discarded.

Rationale:

Food establishment should keep high-risk foods at either 5°C or below, or 60°C or above, during storage, display and transportation. However, it is acceptable for high-risk food to be kept out of temperature control (i.e. between 5°C and 60°C) for a limited time because pathogens (and / or toxin production) need time to grow to an unsafe level. The total time is the sum of the time the food is at temperatures between 5°C and 60°C after it has been cooked (or processed) to make it safe. It does not include the time taken to cool the food after cooking, provided, the food has been rapidly cooled within the required time and temperature.

3.4 Storage, Transportation, and Distribution of Food Products

To ensure food safety, storage, and transport facilities need to be designed and managed to protect food products from potential contamination, damage, and to prevent the growth of pathogens. Specifications of the Food Code (Section 2) apply to design, layout, construction and maintenance of storage and transportation facilities.

3.4.1 Food Transportation and Distribution

Requirements under this clause apply to all kinds of food transportation vehicles including containers, trucks, cars, and bikes designated for food transportation and delivery.

a. Food transportation, storage and distribution units should be designed, constructed, maintained and used in a manner that permits effective segregation of different foods and protect food products from being contaminated.
b. The transportation vehicle should be capable of providing the required temperature under the actual operating environment. To achieve this:
    i. refrigeration equipment must be installed correctly as per the specifications and requirements of the manufacturer
    ii. refrigeration equipment and temperature-controlled compartment concerned with maintaining and ensuring product quality must be built and operated correctly over all expected ambient conditions
    iii. refrigeration equipment and temperature controlled compartment must be maintained to achieve the product quality throughout the transportation process.
c. Food transportation equipment that is intended to be in direct contact with food products shall be constructed of materials which is non-toxic, easy to maintain and clean. Examples include stainless steel and food-grade plastic containers.

d. Food transportation units must be maintained clean at all times. When ready-to-eat food are transported in food units, the units must be cleaned and disinfected after every use.
e. Where necessary, cargo containers should be marked 'For Food Only' to ensure that the containers are not used for other products. Food transportation and storage units/equipment must be of suitable capacity. During transportation, the food should be stored in a ways that allows smooth airflow to ensure sufficient refrigeration.
f. In transportation and distribution units, foods should be stored off the floor and away from walls. When food is transported in bikes, the food unit shall be capable of maintaining safety and integrity of foods.
g. Food transportation vehicles that transport and deliver food in Dubai shall obtain an annual permit for food transportation from Food Vehicle Testing Centers authorized by the Food
Safety Department and accredited by the Emirates International Accreditation Centre (EIAC).
h. The food transportation vehicle shall be restricted to the type of food permitted. Non-food items shall not be transported in these vehicles.
i. When transportation vehicles are used for delivery of food and non-food items, foods should be stored in separate compartments identified specifically for food. Such compartments shall not be used for transportation of non-food items.
j. Where the food business has contracted a third-party supplier of food transportation vehicle, the food business must ensure that the third party meets the requirements of this Code.
k. Personnel involved in transportation of food, including the drivers shall be trained to an appropriate level of food safety essential to ensure safety of food during transportation.
l. Food transportation units/equipment must have accurate and reliable temperature monitoring devices that indicate the temperature of the food compartment.
m. Temperature monitoring devices should be placed in locations where the food is most vulnerable to temperature excursions. All such devices should be calibrated annually or more frequently if required by the manufacturer.
n. When remote monitoring is carried out using wireless devices, the food business owner must be able to demonstrate that the temperature monitoring devices are capable of monitoring the temperature accurately. The digital or analogue sensors must be able to capable of monitoring the relevant parameters and communicating the data for decision-making process.

Note: If the hot food is transported in insulated boxes, the food compartment shall not be refrigerated. However, when cold food is transported, it is essential that the transport compartment is refrigerated.

3.4.2 Temperature Control during Storage and Transportation

a. All high-risk and perishable foods requiring temperature-controlled environments to extend their shelf life or limit microbial growth shall be transported, stored or distributed in equipment that consistently maintains these temperature controls.
   i. at or below 5°C if cold or at or above 60°C if hot
   ii. Frozen at -18°C if they are intended to be stored frozen.

b. Areas used for the storage of dry food commodities should be below 25°C, and well ventilated with a relative humidity of 60-65% to ensure that product quality and safety is not compromised. Where specified by the manufacturer of the product, temperature of Storage should meet the requirements of the manufacturer as specified on the product label (for example, Infant formula should be stored below 20°C).

Note: Where product storage specifications provided by the manufacturer is different from the provisions of the Food Code, the manufacturer should provide the validation documents that support the specification. However, validation requirements are not required if the specifications are more stringent that the provisions of this Code.

Rationale:

Temperature control is an effective way to prevent microbial growth and product deterioration. Temperature abuse during transportation, storage or distribution increases the potential for foodborne illness. Food starts to deteriorate as soon as the crop is harvested, or the animal is slaughtered. The rate of deterioration is related to the growth of spoilage bacteria and mold. Hence, food should be stored under the right environmental conditions (e.g. suitable temperature, humidity, lighting and atmosphere) to minimize the growth of these micro-organisms and to prevent food from becoming unsafe or unsuitable during the expected shelf- life. Proper storage preserves and prolongs shelf-life of raw food materials and prevents them from contamination by food poisoning bacteria, chemicals and foreign bodies that may finally render the food materials or products unfit for processing or human consumption. Proper storage is one of the essential steps for preventing food from becoming contaminated.

In dry foods, an increase of 10°C in storage temperature can reduce the shelf life by half. Cold storage reduces respiratory activity and the degradation of enzymes; it reduces internal water loss and inhibits the growth of decay producing organisms, and in some foods such as fruits and root crops, it slows the production of ethylene, a naturally occurring ripening agent.

3.4.3 Handling and Transfer of Foods

a. Food establishments should take necessary steps to inspect foods at the time of receiving to detect and avoid unacceptable foods.
b. Receipt of high-risk foods should be monitored to ensure that proper temperature has been maintained during their transportation, storage and distribution. Products and records should be checked at the time of receiving and nonconforming products should not be accepted.
c. Food should not be handled or transferred in any way that may cause damage, contamination or adulteration of the food. Food handlers responsible for loading foods into vehicles, and filling display chillers and freezers should be familiar with capacity levels and restrictions to loading such units i.e. volume limits, air flow, temperature range variances etc. in order to maintain the minimum / maximum temperature needs of the products being placed therein.
d. While transferring chilled foods, foods should be quickly moved into temperature-controlled storage to minimize the time in which they are in the danger zone (5°C to 60°C). The Surface temperature shall not exceed 10°C during the transfer of chilled foods, and the transfer time shall not exceed 15 minutes.
e. While receiving and transferring raw frozen foods intended to be cooked and consumed, the temperature of the food should be below -10°C with no signs of thawing. The temperature of the food when measured inside the transportation unit must be at or below -18°C
f. Ready-to-eat frozen food shall be received and transferred at a temperature below -18°C, and should be transferred to the freezer immediately.
g. Contaminated or adulterated foods and foods that have been subject to temperature abuse shall be discarded or disposed of.
h. Damaged food container must be thoroughly examined and if the food is contaminated or adulterated, it shall be discarded or effectively segregated until returned to the supplier or otherwise disposed of.

Rationale:

Careful inspection of transported food will help to minimize the potential of contamination or deterioration of the food product. Prompt handling of foods being transported, stored or distributed serves to minimize the amount of time that perishable foods are in the "danger zone" for growth of pathogenic organisms. Minimizing the amount of handling also minimizes the chance of contamination.

3.4.4 Storage Procedures

a. Rotation of food stocks in storage areas should occur frequently to ensure that the "first- in-first- out" rule is followed.
b. Food should be stored in suitable and safe containers which are covered properly. If packaged, the suitability of packaging should be ensured.

Rationale:

Food that is kept for a long time is also likely to become spoiled and attract pest infestation. Effective stock rotation, to ensure that first-come or first-expiry is used first, is essential to avoiding spoilage and preventing pest infestation. In addition, good stock rotation has the advantage of helping to keep the correct levels of stock.

3.4.5 Disposal of Food

Food that has been found or suspected to be unsafe or unsuitable (e.g. food that is subject to recall or has been returned, temperature abused, contaminated or damaged) shall be rejected or identified properly. Such food should be kept in a separate container or in an isolated area and marked as "Damaged / Not for use". It should be disposed of as quickly as possible & shall never be used for human consumption. Details of rejected items shall be documented & communicated to the supplier.

Rationale:

Food intended for disposal should be kept separate so that it is not accidentally sold or used.

3.5 Preventing Food and Ingredient Contamination

3.5.1 Preventing Microbial Contamination

a. Food manufacturing establishments should identify and implement segregation (zoning) plan in areas where potential for microbiological cross-contamination exists (airborne or from traffic patterns).
b. Food manufacturing establishment should conduct a hazard assessment and implement control measures suitable for these areas which includes but is not limited to:
    - structural physical segregation
    - separation of raw from ready to eat (RTE) or finished products
    - access controls with requirements to change into required workwear
    - control on the flow of people, materials, equipment and tools
    - air pressure differentials
c. Access to food areas in a food estbalishment should be restricted, as much as practically possible, to designated people.

d. For visitors including management and maintenance staff, all practicable measures should be taken by the operator of the food establishment to ensure that they will not contaminate food when visiting food preparation areas.
e. Where the public has access to food other than raw, unprocessed fruit and vegetables, or food specifically served to a customer by a worker of the food establishment, the food should be protected from public handling and contamination by the use of packaging, display cases, or salad bar sneeze guards (food guards), and be provided with suitable utensils or effective dispensing methods.
f. Food handlers should avoid contact with exposed areas of ready-to-eat foods with their bare hands and use, as much as practically possible, disposable gloves, clean and disinfected utensils such as tongs, spatulas, or other food dispensing apparatus.
g. Raw or unprocessed food should be kept separate from ready-to-eat foods.
h. When raw and ready to eat foods are stored in the same storage equipment, ready to eat food should be placed above raw foods to prevent contamination from drip.
i. Ready to eat food should be stored in sealed containers to ensure contamination from drip, spill and cross contamination by any other mean.
j. Raw fruits and vegetables should be, thoroughly washed in potable water to remove soil and other contaminants before being cut, combined with other ingredients, cooked, served, or offered for human consumption in ready-to-eat form. This does not apply to whole raw fruits and vegetables that are intended for washing by the consumer following point of sale.
k. Cleaning and disinfection of food contact surfaces between uses should be carried out as described in Section 4 of this Code. Food should not come into contact with surfaces of utensils and equipment that have not been cleaned and disinfected in accordance with procedures described in this Code.
l. When workers need to taste the food, only cleaned and disinfected utensils should be used, and the utensils should be immediately cleaned and disinfected after tasting and prior to tasting another food or the same food.
m. Foods that have been previously purchased and returned due to quality or food safety issue to the retailer or food service operation should not be re-offered for sale to another consumer.
n. Separately marked or color coded cutting boards should be used for the preparation of:
    i. Ready to eat foods.
    ii. Raw, ready to eat animal and sea food (e.g. fish for sushi).
    iii. Raw vegetable foods intended to be cooked.
    iv. Raw animal foods intended for cooking.
o. Separate, freshly cleaned and disinfected food contact surfaces and equipment (including preparation tables, cutting boards and knives) should be used for ready-to-eat foods.

p. Food transported in conveyors, elevators or similar means should be protected from contamination.

Note: Clause (a)&(b) specifically apply to food manufacturing facilities because of the nature of their operation. Other clauses apply to all types of food establishments.

Rationale:

The food industry faces the threat that the food it serves may endanger workers or customers. Microbes are everywhere. Pathogenic microorganisms pose the greatest danger causing foodborne illnesses. Good policies and procedures for preventing microbial contamination serve as barriers to these disease-causing organisms.

3.5.2 Control of Physical and Chemical Contamination

a. Food establishments shall eliminate potential sources of physical hazards in processing and storage areas. Measures should be in place to prevent the introduction of hazards in to food from the production and storage environment such as the use of shatterproof lighting fixtures. Foreign materials can also include extraneous vegetable material, e.g. nut shells, and insects, rodent hair and droppings, bird feathers and small animals.
b. Food establishments should establish three principal means to control physical hazards in foods:
    - Exclusion – including programs for glass, wood, personnel practices and pest control
    - Removal – by the use of devices such as magnets, sifters, screens and stone traps
    - Detection – by using instruments such as metal detectors, x-rays and optical sorters
c. Food establishments shall inspect raw materials and food ingredients before use to find out if there is any field contaminant, such as stones in cereals and pulses that cannot be found during receiving.
d. Food establishments shall establish an effective maintenance program for the equipment in the facility to avoid sources of physical hazards such as foreign materials that can come from worn-out equipment.
e. Food manufacturing establishments shall install an effective detection and elimination system for physical hazards to detect foreign bodies on food processing production lines such as the use of magnets, metal detectors and X-Ray machines.
f. Food establishments shall ensure that food is stored, displayed, prepared and served in a manner that prevents the food from becoming contaminated by any kind of chemical.
g. Non-food items such as chemicals or any other substance that can harm consumers must be stored in designated areas away from any food, food equipment or food contact surfaces.

h. Foods should not contain food additives in excess of the amounts stipulated under relevant food standards.
i. In large food storage facilities where fumigation processes are used to protect the food, all necessary precautions must be taken to ensure that:
    i. Fumigants are safe to use on food and are approved by the authorized regulatory agency
    ii. Fumigants are used as per the recommended dose.
    iii. All precautions are taken to ensure that personnel involved in carrying out the fumigation as well as the people who work in that area are adequately protected during and after the fumigation process.

Rationale:

Physical contaminants are foreign objects that are found in food either naturally or internal sources found in the food (such as stems in fruit, bones in fish). They can enter into food accidentally during pre and post-harvesting due to poor agricultural practices and also in manufacturing, storage, transportation, or retail (such as metal fragments in ground meat, hair, plastic piece). They are hazardous to the consumers if not detected & removed from food.

3.6 Control of Allergens

Operational standards of the food establishment shall consider the protection of consumers from food allergies, intolerances and autoimmune diseases. Food establishments shall integrate allergen management as a part of the food safety management system and should consider the risk from food allergens together with other food safety risks.

3.6.1 General Requirements for Allergen Management

a. All food establishments shall implement an allergen management system.
b. Food establishments must declare the 14 most common ingredients known to cause allergenic reactions when they are present in the food that is prepared or sold in the establishment.
c. The following ingredients if present in food–whether as an ingredient, compound ingredient, food additive or processing aid–they must be declared on the label or the menu, no matter how small the amount:
    - crustaceans and their products (e.g. prawns)
    - peanut and its products
    - soybean and its products
    - Tree nuts and their products (almonds, hazelnut, walnut, macadamia, pecan, pistachio etc.)

- Sesame seeds and their products.
- Fish and fish products.
- Egg and egg products.
- Milk and milk products.
- Gluten and cereals containing gluten (wheat, rye, oats, barley and spelt).
- Celery and its products.
- Mustard and its products.
- Sulphur dioxide and Sulphites.
- Mollusks and its products.
- Lupine and its products.

d. For the product labels on packaged food produced or imported to Dubai where federal or GCC standards are applicable, declaration of allergens can be limited to the ingredients provided in the relevant food standards.

Note: Over 250 foods have been identified as possible allergens. While it is not possible to identify all those foods as potential hazards, food service businesses should carry out an internal risk assessment process as a part of their food safety management systems and identify any specific allergens that might be applicable to a certain clientele. For instance, identification of lupine and mollusks as allergens in a restaurant that serves to consumers from European Union where these ingredients are labelled as allergens.

3.6.2 Management of Allergens

a. Food establishments shall conduct an assessment of raw materials to establish the presence and likelihood of contamination by allergens listed under Section 3.6.1. This assessment should include but not be limited to the review of raw material specifications and, where necessary, acquire additional information from suppliers through a questionnaire or supplier audit to verify the allergen status of the raw material, its ingredients and the production facility.
b. The establishment shall identify and list allergen-containing materials handled on site. This list shall include all the allergen-containing raw materials, intermediate, finished and newly developed products.
c. Food establishment where a certified food safety management system is mandatory, the establishment shall carry out a risk assessment to identify routes of allergens and establish documented policies and procedures for handling raw materials, and intermediate and finished products to ensure cross-contact is avoided. This should include:
    i. Identification of the scope of the program.

ii. Consideration of the physical state of the allergenic material (i.e. powder, liquid, particulate).
iii. Systematic identification of probable areas or steps of cross-contact throughout the process flow.
iv. Assessment of identified risk at each process step.
v. Identification and implementation of suitable controls to reduce or eliminate the risk of cross-contact.
vi. Establishing and implementing systematic monitoring of those controls.
vii. Establish appropriate corrective action when monitoring indicates that control is breached.
viii. Review the program regularly to ensure that the measures outlined above are working effectively.

d. Procedures or controls implemented by the establishment to ensure the effective management of allergenic material to prevent cross-contact with nonallergen products shall include but not be limited to:
   i. Establishing physical or any other appropriate control during storage, processing and packing.
   ii. Use of separate or additional protective clothing when handling allergenic materials.
   iii. Use of good hygiene practices like hand washing, cleaning of food contact surfaces etc. when handling allergenic materials.
   iv. use of identified, dedicated equipment and utensils for processing
   v. identify specific and labelled areas to store equipment and utensils used for processing allergen-free foods
   vi. Scheduling of production to reduce changes between products containing an allergen and products not containing the allergen.
   vii. Establish systems to restrict the movement of airborne dust containing allergenic material.
   viii. Establish waste handling and spillage controls.
   ix. Establish restrictions on bringing food onto the site by staff, visitors, and contractors and for catering purposes.
e. Procedures shall be in place to avoid contamination during rework.
f. The establishment shall fully validate and routinely verify the production process, in case the claim is made regarding an allergen-free food.
g. Equipment or area cleaning procedures shall be designed to remove or reduce to acceptable levels any potential cross-contamination by allergens. The cleaning methods shall be validated to ensure they are effective, and the effectiveness of the procedure shall be verified routinely. Cleaning equipment used to clean allergenic materials shall either be identifiable and specific for allergen use, single use, or effectively cleaned after use.
h. The establishment shall have appropriate internal and external communication related to allergen management. This includes but is not limited to information related to primary and secondary ingredients, change in procurement, recipes, packaging, preparation or production procedures, equipment, layout and staff.
i. Documents and records that are appropriate for the nature and size of the food establishment shall be maintained to demonstrate the effective application of the above-mentioned requirements.

3.6.3 Labelling of Food with Allergens

Food containing any ingredient or derived from a substance or product listed in clause 3.6.1 shall meet the following labelling requirements:

a. If foods containing allergen are packaged or re-packaged, the food establishment must list the presence of this allergen with its type in the ingredient list in bold font or the word "Contains" followed by the name of the food source from which the major food allergen is derived shall be printed immediately after or adjacent to the list of ingredients. The font size shall not be smaller than the size used for the list of ingredients. Allergen info shall be easily visible, clearly legible and not obscured in any way.
b. In case of modification of a recipe with any known allergen ingredient, the food establishment shall clearly declare on the pack with suitable warning like new recipe or now contains, in addition to the amended ingredients list.

3.6.4 Providing Allergen Information to Non-packaged Food

The following allergen labelling regulations apply to food sold in retail and food service establishments.

a. When food is sold to the customers directly, for example in a restaurant or cafe, the establishment must provide allergen information in writing. This could be either:
    i. full allergen information on a menu, digital devices or boards
    ii. a written notice placed in a clearly visible position explaining how customers can obtain this information - for example by speaking to a member of staff
    iii. Use allergy and intolerance icons to tell the customers how they can find out allergy information.
b. If food is offered on a buffet, allergen information for each food item should be provided separately.
c. If food is sold through online platforms or provided up on phone order for a takeaway, allergen information must be provided before the purchase of the food is completed - this could be in writing (for example on a website, catalog or menu) or orally (for example by phone)
d. All service staff should be formally trained on procedures and policies regarding the management of allergens prior to start of work. Service staff should:
    i. be trained to ask the customer about potential allergies before taking an order in person, or on the phone
    ii. Be trained on handling allergy information requests and when relevant, be able to guarantee that allergen-free meals are served to the concerned customers.
e. Food handlers should know the risks of allergen cross-contact when handling and preparing foods and how to prevent cross-contact.
f. Where the nature of the production and preparation process is in a way that cross-contact from an allergen cannot be prevented, a warning shall be included on the label and/or food menu.

3.6.5 Precautionary Allergen Labelling

a. If there is a risk of a food product being affected by allergen cross-contact, the label should include one of the following statements:
    - may contain X *
    - not suitable for someone with X * allergy

    * *Name of ingredient*

b. Precautionary allergen labelling should only be used after a thorough risk assessment. It should only be used if the risk of allergen cross-contact is real and cannot be removed.

3.6.6 Free-from Allergen Claims

Strict controls are required for ingredients, handling and preparation when foods are sold with 'free from allergen' claims. If the label or declaration in any format indicates or suggests that the product is free from a particular allergen, this declaration has to be based on specific and rigorous controls to ensure that the product is completely free from the particular allergen. This should include verification of ingredients and packaging materials and prevention of cross-contact.

Note: *Free-from claim is a guarantee that the food is suitable for all with an allergy, intolerance or an autoimmune disease. Exceptions for the lower limit of a particular allergen apply to foods when lower limits are specified by food standards applicable in UAE.*

3.7 Packaging

Food packaging should be of suitable design to provide the necessary protection to the product during its shelf life. Both packaging and wrapping of food should be carried out by staff having appropriate training in food safety & these activities should be carried out under hygienic conditions to protect the food from risks of contamination.

3.7.1 General Requirements for Packaging Materials

a. Packaging materials should be appropriate for the food to be packed and sufficiently durable to withstand the conditions of processing, storage and transportation.
b. Packaging materials should not pose a threat to the safety of the food to be packed.
c. Packaging materials and design should provide adequate protection for the food to be packed to minimize contamination and prevent damage.
d. Reusable packaging materials should be durable, so that it can withstand cleaning and/or disinfection process.
e. Packaging materials should be stored and handled under hygienic conditions to minimize the risks of contamination and deterioration.

Rationale:

In addition to prolonging shelf-life, retaining quality and nutritional values as well as providing a water vapor / gas barrier, packaging is important for preventing food from being contaminated with chemicals, physical matters and bacteria.

Packaging materials should not endanger the safety and suitability of the food in contact with them. They should be suitable for the food to be packed, non-toxic, durable and clean. Chemicals from packaging materials should not migrate into the food; and if migration occurs, there should be no known toxic effects to consumers.

Packaging materials may contaminate food if they are not clean. They should thus be kept in their original packages and stored in clean areas where they are not exposed to risks of contamination.

3.7.2 Protection of Food Content

Food packages should be in good condition and protect the integrity of the contents so that the food is not exposed to adulteration, damage or potentially harmful contaminants.

3.7.3 Food Containers

a. The operator of a food establishment should ensure that only food-grade containers are used.
b. Acidic foods (pH below 5) should not be stored or cooked in containers coated with, made of, or containing:
    - lead or lead-based products, including lead-glazed ceramics, china wares, crystal or pewter
    - zinc, such as galvanized containers
    - enamelware that may chip and expose the underlying metal
    - copper and copper alloys, such as brass
    - cast iron
    - aluminum

3.8 Safety of egg and egg-based products

a. Importers of eggs shall ensure that eggs are sourced from suppliers who can provide evidence of microbiological safety specific to Salmonella Spp.
b. When whole eggs are purchased in bulk (non-branded), the food establishment shall obtain all relevant information from the supplier about the source of the eggs including the country of origin, production and expiry dates and details of transportation & handling.
c. When eggs are sourced from farms in UAE, the egg trader or supplier must ensure that the country name and farm code are printed on the eggs.
d. When eggs are imported, the importer should ensure that the eggs have the country of origin printed on the eggs. When the country code is not printed, the importer and traders of egg must ensure that the packaging provided to the food establishments as well as the consumers have clear information about the country of origin of eggs.
e. If the packaging states 'Packed in UAE,' there should be clear information provided to the buyer about the country of origin in addition to the 'packed in' information.
f. Shell eggs as well as egg products shall be stored refrigerated at a temperature of 5°C or less.
g. When several eggs are pooled, the pooled eggs must be prepared in small batches of less than 100 eggs, stored at 5°C, and heat processed within two hours.
h. In food service businesses where raw or lightly cooked eggs are served to consumers upon their request, the food establishment should, as a part of their food safety management system, take reasonable measures to ensure that the consumer is informed about the increased risk of foodborne illness. The menu or the display label at the buffet in such cases should have a clear consumer advisory in Arabic and English stating "Consumption of raw or undercooked eggs may increase your risk of food-borne illness. Written further information is available upon request."
i. Pasteurized egg must be used when the consumers are not aware that the food that is served to them contains raw or undercooked eggs.

Note: Food establishment shall use safer alternatives to raw eggs in foods, which are not fully cooked such as garlic paste, chocolate mousse, tiramisu etc. Eggs are sometimes contaminated with the bacteria Salmonella Enteritis's which can easily survive light cooking methods. When several eggs are combined or pooled, one contaminated egg can contaminate the whole batch of eggs, particularly if the eggs are held at ambient temperature for a long time during the pooling or cooking process. Storage at ambient temperature leads to proliferation of Salmonella and this increases the risk of foodborne illness significantly. If eggs are pooled for scrambling, for batter etc., the pooled eggs must be used within a short Time. It is the responsibility of the PIC of the food establishment to ensure that the consumer is fully aware of the product and the ingredients so that he or she can make informed decisions.

3.9 Specialized Processing Methods

a. Specialized processing methods often require specific equipment and/or ingredients. Due to an increased potential health risk, specialized processes in food establishments must be conducted under strict operational control procedures.
b. Establishment using Specialized Processing Methods shall prepare a HACCP Plan for each individual product/process according to the requirements of clause 3.10.1(c).

3.9.1 Slow Heat Treated Ready-to-Eat (RTE) Foods of Animal Origin

The establishment processing ready-to-eat foods of animal origin using slow heat treatment shall meet all the requirements of clause 3.2 to 3.4.

3.9.2 Raw or Partially Cooked Ready to Eat Foods of Animal Origin

Where poultry, animal or sea food is served raw or partially cooked or, when such foods are used as an ingredient in a food that is not heat processed to ensure safety (such as sushi, oysters, steak tartar, carpaccio, steaks and burgers, raw kibbeh, desserts made from raw or lightly cooked eggs etc.), the following measures should be taken:

a. Ensure that the food is not served to vulnerable population groups such as pregnant women, infants, and people with specific health conditions.
b. When it is not obvious to the consumer from the name or ingredient that the food or the ingredient is raw, the menu or the label on the packaging should clearly state the name of the ingredient, and state that the ingredient is raw.
c. When raw or partially cooked food is served to consumers upon their request, the food establishment shall take measures, as a part of their food safety management system, to ensure that the consumer is informed about the significantly increased risk of foodborne illness. Clear consumer advisory shall be provided on the printed as well as digital menu, along with the description of the food or by asterisking them to a food note in Arabic and English stating "Consumption of raw or undercooked animal, seafood or poultry products such as eggs may increase your risk of food-borne illness. Written further information is available upon request." Consumer advisory can also be provided to consumers on display labels, placards and table tents instead of the printed menu.
d. When packed and sold, the packaging should clearly state the storage and handling requirements necessary to ensure safety of the food.
e. When fish associated with parasitic infection is served raw or the cooking process does not meet the minimum thermal lethality requirements, the establishment should have additional controls that includes:
    i. Freezing of fish to eliminate parasites or any other control measures to ensure the elimination of such hazards. When freezing is used for parasite

control, fish shall be blast frozen at -35°C for 15 hours, or -20°C for 7 days to eliminate parasites.

ii. If the fish are frozen by a supplier, a written agreement or statement from the supplier stipulating that the fish supplied are frozen to a temperature and for a time specified section (I) of this clause.

f. Freezing is not a mandatory control measure for molluscan shellfish, a scallop product consisting only of the shucked adductor muscle, certain species of tuna e.g. Thunnus alalunga, Thunnus albacares (Yellowfin tuna), Thunnus atlanticus, Thunnus maccoyii (Bluefin tuna, Southern), Thunnus obesus (Bigeye tuna), or Thunnus thynnus (Bluefin tuna, Northern); or aqua-cultured fish such as salmon raised under controlled conditions.

g. When freezing is not used as a control measure, food establishments that import distribute, store or serve raw seafood must ensure that the product is 'sushi or sashimi grade' with supporting documents from the supplier assuring the safety of the fish.

h. When raw or partially cooked whole-muscle intact beef is served in a Ready to Eat form the food establishment shall:

i. provide any evidence that the whole muscle beef is not injected, mechanically tenderized, reconstructed, or scored and marinated

ii. cook all sides of the steak to a surface temperature mentioned in Clause 3.2.8

iii. Provide information to consumers in such a way that enables them to understand its importance and make informed choices.

Note: The supplier's assurance should include documents of traceability, and evidence that the product has been transported and stored safely throughout the food supply chain. In the case of farmed fish, evidence can include clear labeling and health certificates. The supplier should also have food safety management system certification that has safety or raw ready to eat animal/seafood products within the scope of the certification.

3.9.3 Sous-vide Process

Establishment processing food with sous-vide method shall meet all the requirements of clause 3.2 to 3.4 as well as:

a. Use commercial equipment with adequate heating capacity and effective temperature control necessary to ensure the time and temperature combinations that are necessary for getting the necessary reduction in pathogenic organisms are achieved. The reduction requirements for animal foods must be equivalent to the cooking requirements specified in this Code.

b. Use a food grade oxygen barrier bags for cooking

c. Sous-vide pasteurized foods must be used within 3 days of refrigerated storage at or below 5°C.

d. Such food shall be prepared and consumed at the establishment with no distribution or sale of the packaged product.

3.9.4 Reduced Oxygen Packing

Food establishments that package high-risk foods using a reduced oxygen packaging method shall have adequate measures in place to control the growth and toxin formation of both anaerobic & aerobic pathogenic bacteria.

Packaging materials or atmospheric packaging gases, where used:

i. should not cause harm to people exposed to them;
ii. should not pose threat to the safety and suitability of food under the specified conditions of storage and use.

3.9.5 Water Activity and Acid Ingredients to Control Growth of Pathogens

Air drying, application of heat, salts, or freeze drying or combination of these processes can be used to reduce the water activity (aw) of the product to inhibit the growth of microorganisms.

a. Food establishment that dehydrates or dry beef or beef products shall cook such products to achieve minimum thermal lethality mentioned in clause 3.2.7. The temperature and humidity in the drying chamber/room shall be uniform and controlled.
b. Salting and curing process should be capable of reducing the water activity the level required to prevent bacterial multiplication. Additives, if used, shall not exceed the limits mentioned in the relevant national standard.
c. When pH is used as a control measure for foods stored at ambient temperature, the pH of the food shall be less than 4.O with the exception of sushi rice where a pH of 4.6 is acceptable for control of *Bacillus cereus* in rice.

3.9.6 Smoking and Aging

a. These traditional processes improve the flavor and tenderness of the beef. The establishment shall use validated time, humidity and temperature control to avoid the growth of mould and spoilage bacteria.
b. The aged product shall be heat treated before consumption to achieve the minimum thermal lethality requirements specified in clause 3.2.7.
c. Smoked products must meet all the requirements of Clauses 2.3 to 4.3.

3.9.7 Safety of Novel Foods

Novel foods must comply with the requirements specified in UAE Standard, UAE.S 5O48:2O21 on General Requirements for Novel Foods. Novel foods should not be imported, manufactured, marketed, or sold until the requirements of the standard have been met.

3.10 Ice and Water Used for Ice Production

Ice produced in factories in bulk or in ice machines shall be produced, stored and transported in a safe manner; following general requirements apply to ice produced for human consumption.

a. Ice which comes into contact with food has to be made from potable water.
b. Source of water used for the production as well as the ice should meet the UAE standards for ice for human consumption and UAE standards for Unblotted Drinking Water.
c. Food establishments shall conduct microbiological and chemical analysis of ice periodically to ensure that ice meets the relevant microbiological and chemical standards. Samples shall be tested in an EIAC accredited laboratory.
d. The number of samples tested, and the frequency of testing should be representative of the nature and volume of production. Food establishments shall establish such verification programs as a part of the food safety management system in consultation with the authorized officer at the Food Safety Department.
e. Ice should be made, handled and stored under conditions that protect it from contamination.
f. Ice shall not be used as food, if it has been used previously as a medium for cooling the exterior surfaces of food.

4 Cleaning and Maintenance

Cleaning and maintenance programs in food establishments should include the elements of cleaning and disinfection, pest management, waste management, building and equipment maintenance, and the need to monitor the effectiveness of these elements. Food establishments should ensure that premises, fixtures, equipment, and utensils are maintained to an acceptable standard of cleanliness, and in a good state of repair.

Rationale:

Buildings, materials, utensils and equipment in a food establishment, including waste water and refuse collection systems pose a potential source of contamination of food and food products. These all should be kept clean, free of pests and maintained in good repair. Equipment, materials and utensils that come into contact with foods, especially raw products (fish, meat, vegetables, and poultry) are generally considered to be contaminated by microorganisms. These microorganisms could contaminate other products. For this reason, it is necessary to have well established programs in place to ensure that physical structures, including equipment and utensils, are maintained in a clean and sanitary condition. In order to achieve thorough disinfection, equipment may require dismantling, cleaning and disinfection at the end of each day or more frequently to prevent

4.1 General Requirements Pertaining to Maintenance

a. All parts of the establishment, fixtures, fittings, and equipment should be maintained at all times in a state of good repair and working condition to:
    i. prevent contamination of food from the surrounding environment, plaster, paint, broken glass or leaking pipes, etc.
    ii. enable effective cleaning and, if necessary, disinfection
    iii. ensure pests cannot gain access to the establishment from hollow spaces in ceilings, walls, etc.
    iv. ensure that the equipment works as intended.
b. Food establishments shall have a preventive maintenance plan for all equipment used for food safety risks' monitoring and/ or control.
c. Maintenance shall be carried out in such a way that production in adjoining areas or equipment is not at risk of contamination.
d. Food establishments shall ensure that all maintenance staff has been trained about the food safety hazards associated with the maintenance activities.

e. Floor surfaces should be maintained in good condition, free of cracks, crevices, or other defects. There should be no dips or hollows. Floors should be free from the accumulation of food waste, dirt, grease, or other visible obnoxious matter. They should be washed with detergents at least once daily. Hot water or steam may be used for better removal of grease. Coving between floor and wall junctions should be kept clean, in good repair, and be bonded firmly to their positions.
f. Walls of food rooms should be cleaned frequently, daily or more if necessary. Wall surfaces or ceilings should be clear of unnecessary fittings or decorations such as unnecessary posters or pictures as far as possible.
g. Junctions between walls, and between walls and ceilings, should be tightly sealed and maintained in good condition, and free from cracks, crevices, holes or gaps or flaking materials. Any holes or gaps that may allow access of pests to the wall and ceiling should be sealed up. False ceilings should be cleaned to remove the accumulation of dust, particles or debris that may fall onto foods as to cause contamination.
h. Any furniture or equipment, which cannot be moved easily, should not be placed too near to the wall inside kitchens or food preparation rooms in a way that obstructs access to such places for cleaning. Alternatively, heavy equipment should be installed with wheels to facilitate easy removal for cleaning.
i. Food contact surfaces of equipment and utensils shall be maintained in a good state of repair. They should be smooth, free of cracks and crevices, and be kept clean and free from noxious matter.
j. Cutting surfaces such as chopping blocks and cutting boards which are subject to scratching and scoring should be resurfaced if they become too difficult to be effectively cleaned and disinfected and should be discarded if resurfacing is impossible.
k. Non-food contact surfaces of equipment such as cupboards, refrigerators, racks, stoves, cooking ranges and food lifts should kept clean and in good state of repair and working condition. They should be free of unnecessary ledges, projections and crevices; and designed and constructed to allow easy cleaning and to facilitate maintenance.

4.2 Cleaning and Disinfection

4.2.1 General Requirements For Cleaning

a. Food contact surfaces of equipment and utensils should be kept clean and free from noxious matter by regular cleaning and disinfection at a frequency that prevents accumulation of grease deposits, dirt and other residues.
b. A food contact surface such as a cutting board used for raw food and ready-to-eat food shall be cleaned and disinfected between each use. If equipment or a utensil is used continuously at room temperature for handling high-risk foods (e.g. meat slicers), it should be cleaned and disinfected at least once every 4 hours.
c. Any part of a thermometer, especially the temperature probe that will be inserted into the food for temperature measurement, should be cleaned and disinfected between each use.
d. Non-food contact surfaces should be cleaned at a frequency that prevents accumulation of dirt, grease and other residues.
e. Cleaning has to be carried out in a systematic manner, for example, high-risk area to low risk area with sequence from walls, non-food contact surfaces of equipment such as cupboards, refrigerators, cooking ranges and then the floors.

4.2.2 Cleaning Facilities

Food establishments should have adequate facilities to enable effective cleaning activities. There should be separate cleaning rooms with proper segregation between clean and dirty equipment to prevent cross-contamination.

Rationale:

Accumulation of food waste, dirt and grease, etc. provides food for pests and enables microbial growth, which are conducive to food contamination. This dirt and waste may come from a variety of sources including food spills, food handlers' shoes, linens and food packaging, etc. Accumulation of liquid on floors could provide a water source for pests and encourage their presence in the establishment. It could also be a source of microbial contamination. Cracks, crevices or similar defects on walls, floors or ceilings can harbor pests or become their breeding grounds. Effective, frequent and regular cleaning, disinfection/ sanitizing, and maintenance of floors, walls, ceilings and equipment are thus necessary for removal of food contaminants and prevention of microbial proliferation

4.2.3 Cleaning and Disinfection Process

a. Cleaning and disinfection of equipment and utensils should be done as separate processes. A food contact surface needs to be thoroughly cleaned before it is disinfected.
b. After cleaning, food contact surfaces, equipment and utensils shall be:
    i. disinfected to a temperature of 82°C or equivalent in a dish washing machine; where the washing machine shall be equipped with a temperature measuring device that indicates the temperature of the water in each wash and rinse tank
    ii. disinfected by immersing in a non-toxic solution containing a disinfecting agent of a type approved by the concerned department or
    iii. Disinfected using any other method that can reduce the microorganisms to a level which is neither harmful to health nor the quality and safety of foods.
c. All cleaned and disinfected equipment and utensils should be thoroughly rinsed and dried by evaporation (air dry).
d. Cleaned and disinfected equipment should be stored in a place and manner that prevents contamination.
e. Adequate care must be taken to ensure that water, debris and other materials are not spread to clean areas when high-pressure jets are used.
f. In retail food service establishments:
    i. separate sinks should be provided for food preparation and equipment washing depending on the size and extent of activities
    ii. all dish-washing activities should be done in sinks and/or dishwashers within the food establishment
    iii. wash-up sinks should be cleaned at a frequency that prevents accumulation of grease deposits and other residues
    iv. sinks used to wash ready-to-eat foods should be cleaned and disinfected before use
    v. wash-up sinks should not be used for miscellaneous articles
    vi. Hand washing should not be carried out in sinks that are used for other purposes. Handwashing sinks should be identified by a suitable signage.

Rationale:

Cleaning is a process for the removal of contaminants such as food residues, dirt, grease and bacterial film from a surface, which is achieved by the use of water and proper detergent. Utensils and equipment should be disinfected, either mechanical or manually, after cleaning to minimize the risk of food becoming contaminated with micro-organisms.

A bactericidal agent or disinfectant should be applied at the proper concentration, temperature and for the appropriate duration of time to achieve desirable reduction in bacterial level.

Disinfected equipment and utensils shall be handled in a sanitary manner after disinfection and should be allowed to dry as quickly as possible as most micro-organisms cannot survive in the absence of water. Drying by towels or storing on a dirty surface may lead to contamination a cleaned and disinfected surface.

4.2.4 Chemicals and Technologies used for Cleaning and Disinfection

The following requirements apply to chemicals and technologies that are used in the food industry for cleaning and disinfection process.

a. Cleaning agents and materials (biocides) and the process used for cleaning and disinfection, must be of suitable nature for food establishments And be approved by the concerned department. The establishment should determine the appropriate cleaning method in consultation with the chemical supplier.
b. Chemicals including detergents, and processes used for cleaning food contact surfaces should be appropriate to effectively remove food residues from equipment and utensils.
c. The service or solution provider of the cleaning/disinfection agent, or the provider of the equipment or process used for cleaning and disinfection should provide all necessary information to the food industry user including the limitations of use. The efficacy of the cleaning or disinfecting agents or processes must be specified by the supplier where necessary.
d. The service or solution provider of the cleaning or disinfection agent must provide the essential documents and training required to use the agent or the process safely and effectively. The documents provided by the service or solution provider should include
    i. evidence that the chemicals are suitable for the tasks being carried out
    ii. evidence that the chemicals will be effective against pathogens of concern as identified in food safety management system
    iii. Evidence that the chemical is suitable for use in food establishments.

e. Safety Data Sheets (SDS) along with the documents of validation pertaining to the suitability and effectiveness of the chemical and/or the process of disinfection should be retained in the food establishment at all times.
f. Effectiveness of the cleaning method should be evaluated by the food establishment and appropriate data should be gathered to validate the method selected and to make adjustments as needed.
g. Instructions on how to use the agents should always be followed, especially the optimal combination of the temperature, pH and concentration of the agent. If the instructions are not clear, further advice should be sought from the supplier.
h. All chemicals should be labelled properly and never decanted into food containers.
i. Chemicals should be stored securely and in accordance with the manufacturer's recommendation.
j. The concerned person in the establishment should:
    i. be trained on the use of the disinfectant
    ii. Check the temperatures of the water and the disinfectant concentration frequently to ensure that effective results are being achieved. Test kits/strips should be obtained from the supplier and stored at a convenient location
    iii. Where digital monitoring is not possible, keep records of disinfectant concentrations.

Note: Terms such as 'Sanitizer' and 'disinfectant' are used interchangeably. Food business should ensure that suppliers provide all the necessary details as some disinfectants are specific to certain target microorganisms and do not affect the broader range of pathogens.

4.2.5 Cleaning Tools and Equipment

The design of the cleaning tools and their handling and storage are also important to ensure effective cleaning.

a. The design of the cleaning tools must be suitable for effective cleaning with no hiding places for food residues or bacteria to accumulate.
b. Materials should be suitable to withstand the effect of cleaning chemicals.
c. Brushes made of wood and natural bristles must be avoided and worn-out brushes must be replaced.
d. Mops with detachable heads that can be washed should be used for cleaning the floor.
e. When high-risk food production areas are very close to potentially contaminated raw food areas such as butchery, produce cleaning area etc., tools should be color coded to restrict the use of tools of a certain color to a specific area.

f. After use, cleaning tools should be cleaned / washed properly, and should be kept in designated area that facilitates drying.
g. Equipment such as floor scrubbers and rotating washers should be carefully chosen for the intended use.

4.2.6 Cleaning and Disinfection Program

a. To achieve the appropriate standard of cleanliness, all food establishments should develop a cleaning / disinfection program that encompasses all equipment and facilities as well as general environmental cleaning. Cleaning schedule need to be developed that is suitable for the item/ equipment/surface to be cleaned and should describe both the method and frequency of cleaning specific areas.
b. Food establishments should conduct an evaluation of each area to decide the cleaning method. Consideration should be given to potential microbiological risks, i.e. pathogenic and spoilage microorganisms, and potential chemical and allergen risks.
c. Cleaning programs should be maintained with the due consideration to the following details:
    i. the size, type and temperature of the area to be cleaned, the structure of the building and the wall, floor and ceiling finishes and the type of material
    ii. the type of soiling and water hardness, water pressure and drainage system
    iii. If cleaning is necessary during food preparation, adequate measures to remove or protect food.
    iv. Measures to reduce the risk of spreading contamination, especially when using high pressure jets.
d. Food establishments should maintain a written cleaning schedule that specifies:
    i. what is to be cleaned
    ii. chemicals, materials and equipment to be used for cleaning
    iii. dilution and contact time of the chemical
    iv. method of cleaning (how)
    v. frequency of cleaning (when and how often)
    vi. time necessary to clean it
    vii. who has to clean it (name of the person)
    viii. safety precaution to be taken- protective clothing to be worn
    ix. who is responsible for monitoring and recording what has been cleaned.

Rationale:

The requirement for a written cleaning & disinfection program is very similar to the requirement, in this Code, for management principles to control food hazards. The objective of the disinfection program is to provide reasonable assurance that the food establishment is being cleaned and disinfected effectively and consistently.

4.3 Pest Management

a. Food establishment should be kept free of food pests including rodents, insects, birds and animals.
b. Food establishment and surrounding areas should be inspected regularly to look for signs of pest infestation.
c. Whenever pests are detected, control actions should be taken promptly to rectify the situation.
d. Pest control activities shall be done by a specialist licensed pest control agency approved by concerned department of Dubai Municipality and should only use approved chemicals and methods.
e. The food establishment shall ensure that the pest control agency contracted for the services is capable of delivering the service objectives consistently. If the deliverables are not met, the pest control agency shall be reported to the concerned department.

Rationale:

Food establishments are easily infested by pests due to the presence of food sources and numerous harborage places. A pest infestation in a food establishment may leads to contamination by foreign matter (e.g., insect parts, rodent hair, etc.), pest urine/faeces, and/or pathogenic microbes carried by pests. Improper handling of food and food debris, accumulation of unused articles and presence of structural defects render food establishment highly susceptible to pest infestations. Pests will not only pose food safety problems but they also transmit diseases to human. They can carry pathogenic organisms to foods physically by their bodies, hair and excreta.

4.4 Prevention and Control of Pest Infestation

Food establishments should have high standards of hygiene and repair to avoid pest infestation. Proofing measures should be adopted to prevent the entry of pests. Proper protection of food and disposal of waste is required to remove their food source.

4.4.1 Prevention of Entry of Pests

Particular attention should be given to the following for the prevention and control of pests in food establishment:

a. Any holes or crevices in ceilings, walls and floors should be sealed by cement or metal plates
b. Threshold clearance of doors should be lowered to not more than 6 mm and metal kicking plates should be affixed at the lower edges of doors and door-frames to prevent entry of rats and mice
c. Windows, ventilation openings and doors should be installed with mesh screens of (16 mesh to 25.4 mm (16 mesh to 1 inch). Doors / screen doors should be self-closing and kept closed at all times
d. Any missing or damaged gratings of drains should be installed or replaced immediately.

4.4.2 Elimination of Harbourage for Pests

a. False ceilings should be avoided in food preparation or storage areas as far as possible
b. Any defects on walls, floors, ceilings, woodwork and all other parts of the structure should be promptly repaired.
c. Unused articles or equipment should not be stored in food establishment. If storage is unavoidable, they should be moved regularly to eliminate harborage of pests.

4.4.3 Elimination of Food Sources to Pests

a. All foods as well as condiments should be covered and stored properly in sealed containers.
b. Floors of food establishment should be kept clean and free from food remnants, especially overnight preparing food or cleaning utensils is strictly prohibited in the yard or the rear / side lanes.
c. Refuse should be stored in refuse containers with well-fitting covers. Refuse bags should be tied up before disposal to prevent spilling and attraction of pests. They should be cleared at least once a day, preferably every night to avoid leaving refuse overnight.

4.4.4 Eradication of Pests

a. Pest control devices should be designed and located to effectively control the presence of pests in a food establishment. Insect control devices designed to trap insects by adhesive or devices that may expel the insects or insect fragments should be installed so that the dead insects or insect fragments cannot fall onto exposed food or equipment. To be effective, insect traps (sticky pads or similar devices) should be changed regularly or when loaded with insects.
b. Electric Fly Killers (EFKs) equipped with catch trays can be used to eliminate flying insects in food establishment. The EFK should be placed at least 1.5m (preferably 4.5 – 6 M) away from a food handling area. The ideal height of EFK could be two and two and a half meters from the ground. Only low wall mounted type EFKs should be used, and ceiling – hung type EFKs should not be used in food handling areas.
c. Pest control activities shall be done by specialist pest control agencies licensed and approved by the concerned Department to operate in Dubai. They shall use approved chemicals and methods. The food establishment has the primary responsibility to ensure that a competent person carries out the pest control operation in the establishment
d. Rodenticides and insecticides should be applied in such a manner as not to contaminate foods – they should not be applied while food production / preparation is taking place, and all open foods should be well covered and protected.
e. Establishment specially restaurant operating 24 hours should use physical control method to prevent chemical contamination during treatment.
f. In the event of pest infestation, any contaminated equipment, utensils, clothing and food contact surfaces should be thoroughly cleaned and disinfected. Any food that has been contaminated by pests or pest control chemicals should be disposed of.

4.4.5 Monitoring and Detection of Pests

a. Food establishments shall place robust and tamper-resistant traps appropriate for the target pest in key locations in order to identify pest activity.
b. A map of traps shall be maintained.
c. Traps shall be placed in a way that prevent potential contamination of materials, products or facilities.
d. Food establishment shall monitor these traps on regular basis to identify new pest activity.

4.4.6 Keeping of Records

a. Management of food establishment shall use digital tools and systems provided by Dubai Municipality for managing all documentation and recording of data linked to pest management.
b. Date relevant to contracting of the supplier, visit reports, and details of corrective and preventive actions must be maintained on the digital platform.

Rationale:

Presence of pests increases the likelihood of contamination of food and may cause significant damage to a food establishment. Properly designed and installed pest control devices can be used as a means of eliminating pests.

To ensure that pests are properly, effectively and safely eradicated, the Person in Charge should rely on approved pest control agencies and emphasize integrated pest management practices that minimize the reliance on chemical controls. Since chemicals used to eradicate pests may also be toxic to humans, food should be adequately protected while these substances are being applied in the food establishment. Food establishments which have become infested should be thoroughly cleaned to eliminate pest harborage. Surfaces contaminated by pests should be cleaned and disinfected to destroy microbial pathogens which might be present and contaminate foods.

The first and best line of defines is to prevent entry of pests by proper inspection and maintenance of the establishment. The second line of defines is to deprive pests of food sources by proper storage of food and prompt removal of refuse, food remnants and spills. To verify that appropriate pest control measures have been undertaken, all aspects of pest control operations shall be documented and monitored.

4.5 Use of Chemicals and Toxic Substances

a. Chemicals, cleaning and disinfecting compounds and other toxic substances kept in a food establishment shall be:
    i. used in compliance with the manufacturer's labelling, directions or specifications and approved by the concerned department
    ii. used only in such a manner and under such conditions so that the substances do not contaminate food, equipment and food contact surfaces, or cause a health hazard.
b. The chemicals, cleaning and disinfecting compounds and other toxic substances shall be stored:
    i. in a compartment separate from food, food contact surfaces and utensils

ii. In clearly labelled non-food containers, which are (where appropriate) lockable.

Rationale:

Special care should be taken when handling dangerous or toxic substances in food establishment they should be used according to manufacturer's specifications, not only to ensure they function as intended but also to ensure worker safety.

To prevent the contamination of food products, dangerous or toxic chemicals shall be kept in containers, which are clearly labelled to identify the contents, and stored in areas separate from food and food equipment. Locked containers or storage facilities can prevent malicious or accidental contamination of food.

5 Personal Hygiene

Final Draft

5.1 Personal Health and Illnesses

a. High standards of personal hygiene should be maintained in all food establishments to ensure that those who come into contact with food are not likely to contaminate food by:
   - maintaining an appropriate degree of personal cleanliness
   - behaving and operating in an appropriate manner.

b. All food handlers should be in good health, have good eyesight and be able to read, especially if they are responsible for checking thermometers, instructions on labels, date coding etc.

c. Food handlers should undergo medical fitness tests conducted by the concerned government authority and retain relevant occupational health cards.

d. All staff engaged in food handling must:
   i. be free from any symptoms of illnesses or communicable diseases such as diarrhea, vomiting, fever, sore throat, abdominal pain and jaundice
   ii. not be carriers of food-borne diseases e.g. typhoid/paratyphoid, cholera, hepatitis type A
   iii. Not suffer from discharging wounds or sores on any exposed part of their bodies; or from discharge from their ears, eyes or noses.

e. A food handler should be instructed in writing to report to the person in charge if they are suffering from a communicable disease in the following situations:
   i. they have any symptoms associated with an acute gastrointestinal illness, such as diarrhea, fever, vomiting
   ii. they are suspected of causing or being exposed to a confirmed communicable disease outbreak or
   iii. they live in the same household with a person who is diagnosed with a communicable disease.

f. If a food handler is suffering from an illness or communicable disease, the Person in Charge is responsible for ensuring appropriate action is taken. This may include excluding the individual from activities that involve the handling of food or food contact surfaces, food utensils and equipment or authorizing the individual's absence from the workplace.

g. When returning to work after medical leave or illness because of communicable diseases, food handlers should have written clearance from the treating physician.

h. Food establishments that employ food handlers on a contract or on a temporary basis must ensure that the employee meets the requirements of the relevant clauses under Sections 5 and 6 of this Code.

5.2 Injuries

a. Food handlers with open infected lesions, cuts, and wounds on their bodies must not be allowed to handle food or to come into contact with food utensils, equipment and food contact surfaces.

b. Food handlers with clean cuts/wounds can work if the cuts are entirely protected by brightly colored, waterproof dressings that can be spotted easily if fallen in to the food.

Rationale:

Several types of communicable disease can be transmitted by consumption of food. Food handlers should eliminate the opportunity for pathogenic micro-organisms being transferred to food and spread to consumers.

Food handlers can carry communicable diseases, especially if they have been infected or are in contact with persons or objects that may carry the harmful microbes of those diseases. Consequently, food handlers may spread these diseases throughout the food establishment if they do not maintain an appropriate level of personal hygiene and avoid habits that may contaminate food.

Some food poisoning bacteria are commonly found on open wounds or cuts. Illnesses may be spread to consumers if food handlers suffering from illnesses or with open wounds are allowed to take part in food activities.

5.3 Personal Hygiene Practices

a. Food handlers should maintain high levels of personal hygiene at all times.
b. In the course of handling food and for any person entering a food preparation or storage area, hair should be covered with a clean hat or hair net. Where required, beards should be completely covered with beard nets.
c. While in food handling area, food handlers should not wear watches, or jeweler which may easily become detached (e.g. ear rings).
d. Only clean and preferably light colored outer clothing or protective overalls should be worn by food handlers. If they become soiled during food preparation, they should be changed or cleaned as necessary. Food handlers should have at least 4 sets of uniforms to ensure that they can change uniforms when necessary.
e. Hand hygiene is an important step to prevent spread of foodborne illnesses.
    i. Hands of food handlers should be kept clean at all times. Nails should be kept short and free of nail varnish.
    ii. Food handlers shall wash their hands and dry their hands:

- before commencing work
- before handling food
- after visiting the toilet
- after putting on or changing a wound dressing
- after dealing with an ill colleague or customer
- after coming into contact with pests or their faces
- ·after handling contaminated raw foods of animal or plant origin
- after handling soiled equipment or utensils
- after coughing, sneezing, smoking, eating, drinking or blowing nose
- after handling chemicals or waste
- after engaging in any activities that may contaminate hands (e.g. handling money, carrying out cleaning duties, etc.), or after returning from a work break

    i. Hand washing must be frequent, thorough and performed in hand wash basins;
    ii. Wearing gloves should not be an alternative to proper hand washing.

5.4 Personal Habits

Inside food preparation areas, food handlers should refrain from performing the following behaviors/habits, which may result in the contamination of food:

i. smoking or using tobacco and spitting;
ii. chewing, eating, sneezing or coughing over unprotected food or food contact surfaces;
iii. touching ready-to-eat food with bare hands;
iv. sitting, lying or standing on any surface liable to come into contact with food;
v. tasting food with fingers; and;
vi. touching hair or other parts of bodies such as noses, eyes or ears
vii. eating in food preparation areas.

Rationale:

Pathogens are commonly found on the skin and in the noses of healthy people. Scratching the head and nose can result in bacteria being transferred by hands onto food, which may cause illnesses to customers. Smoking in food rooms may cause food contamination by cigarette butts, ash or hands.

Prevention of foodborne illnesses should begin with good personal hygiene practices by food handlers in both personal cleanliness and habits to prevent contamination of food by pathogens.

5.5 Visitors

Any visitor or contractor in a food preparation area should be appropriately dressed and should follow the same hygiene standard as food handlers, including hand washing, protective clothing and hair restraint policies. They should refrain from coming into proximity or contact with food and food equipment, and from any activities that could contaminate food.

6 Training for Food Safety

Final Draft

6.1

6.2 Role of the Person in Charge

a. The Person in Charge in a food establishment should ensure that all personnel working in a food establishment are trained to a level of food safety training appropriate to the type of work the person is involved in.
b. The PIC should ensure that food handlers attend an appropriate training program approved by the Food Safety Department. After successful completion of the formal training program, the food handlers should be able to demonstrate food safety competency and skills at work.
c. The PIC must carry out a periodic assessment of the food handler's behavior. When the assessment indicates a lack of food safety understanding, the person must be re-trained.
d. When food handling staff are hired for short or long-term from a non-food business, it is the responsibility of the PIC of the food business to ensure that the hired staff have formal food safety training and are competent.
e. The PIC must document the status of training of all employees and their relevant particulars.
f. The management of food establishments and food-related service providers should prepare documented training plan for all employees based on their training needs.

6.3 Training Program

a. Food handler's training program should be based on the level of food safety risk in the food establishment, as listed below.
b. All food handlers must be formally trained on food safety.
c. Personnel who are not directly involved in food preparation, but are involved in managing food related services (such as a person handling the buffet counter, food delivery etc.), should also be formally trained.
d. Food handlers should be trained on food safety to a level appropriate to the job they perform. Such trainings should also be based on the level of food safety risk in the food establishment. Factors for assessing the level of food safety risk include:
    i. the nature of food produced or manufactured in the establishment;
    ii. the manner in which food is handled or served;
    iii. the type of menu items or the complexity of the processes used (i.e., prepared-from-scratch menu items versus preparation or reheating of pre-packaged, ready-to-eat foods; and
    iv. The number of meals served daily, the size of establishment, and the type of customers to whom food is catered to (i.e., vulnerable populations, people with allergies).
e. Formal food safety training must be obtained from a trainer and training center approved by the Food Safety Department.

6.4 Continuing Educational Training

a. Every food establishment should promote food safety education through ongoing training, including additional online and classroom sessions, on-the-job training, workshops, and employee meetings.
b. Food handlers should participate in a refresher or updating course after two years of training. However, the food handler shall be retrained in the Basic Food Safety program only if incompetency in food handling practices are noticed.
c. The PIC shall provide evidence of continuous learning and refresher training appropriate to the level of food safety risks in the business.

7 Provisions and Requirements Applicable to Import, Sale and to Export of Foods

Final Draft

Food establishments that import and export food in Dubai must meet the requirements specified in this code where applicable. These establishments must also fulfill the requirements of the local, federal and regional legislations related to the food products they trade and related work procedures.

7.1 Pre-Import Requirements

Food establishments that import food shall comply with the following requirements:

a. Food establishments that trade food shall have a valid trade license with relevant business activity that authorize trading of food.
b. Food trade establishments shall have at least one person as Food Trade Person in charge who has been formally trained by the Food Safety Department and must be competent in managing food trade-related work.
c. Prior to using the food import and re-export related services in Dubai, the food establishment and the employees designated to handle the digital services must be registered on the designated digital platform from Dubai Municipality.
d. Prior to the importation of food, the importing establishment must ensure that the exporting establishment is aware of all the relevant product standards, labeling and documentation requirements.
e. Prior to the importation of the food, the importer should ensure that food products are registered in the relevant digital systems of Dubai Municipality, and food labels are assessed for compliance with the relevant national standards.
f. Food establishments shall import products that meet the relevant standards and the ensure that all essential information and documents are provided to the Food Safety Department for inspection and verification.

7.2 Documents Required from the Country of Origin

The following requirements shall be met when a food product is imported to Dubai:

a. All food consignments should be accompanied with health certificate/phytosanitary certificate issued by the authorized body from the country of origin. During the import verification process,
    i. Certificates and documents presented for the inspection of imported food at the ports of entry must comply with the GCC guidelines for regulating importation of food.
    ii. Product that are imported must match the products mentioned in the certificate.
b. The establishment must submit packing list issued by the exporter and list should match the imported items of the consignment.
c. If the product label has a Genetically Modified Organism (GMO) free claim, the importer must submit GMO-free certificate issued by the authorized entity in the exporting country.
d. If the product label has an Organic claim, the importer must submit Organic certificate issued by the organic certification body approved by the concerned authority in UAE.
e. All imported poultry, meat and meat products require a halal certificate issued by the halal certification body in the exporting country, and the halal certification bodies must be accredited by the competent authority in the United Arab Emirates. Consignments of meat and poultry imported from an Islamic country are excluded from presenting a Halal Certificate.

f. Halal certificate is mandatory for the following food products:
   i. poultry and meat and its products
   ii. edible animal body parts/offal
   iii. Products that contain ingredients of animal origin

g. Any additional documents/certifications required by the Department in accordance with Federal, or regional or International Food Notifications.

7.3 Documents Required from the Concerned Authorities in UAE

The following documents should be submitted at the time of inspection of the food at the port of entry.

i. Bill of Lading/ Airway Bill/ Manifest -a document accompanying goods shipped by sea/air/road that provide detailed information about the consignment.
ii. Customs Declaration / Bill of Entry that confirms the entry of food to Dubai.
iii. Delivery Order/Delivery permit -documents to confirm the delivery of the consignment, which orders the release of cargo transportation to another party.

7.4 Post-Import Requirements

During clearing food consignments from port of entry in Dubai, the food establishment must:

a. Ensure the commitment to provide any specific requirements set at the time of releasing the shipments by submitting an "undertaking" for the following reasons:
   i. items detained in the consignee's warehouses if some of or all the food items have been designated for deferred inspection (DIP)
   ii. in case of samples being taken; or because of a violation, or in case of missing documents (such as health certificate) that should be submitted later.
b. Execute the decisions regarding rejected consignments within grace period and provide the proof to the department.
c. Ensure immediate withdrawal or recall of products whenever required by the department.
d. Provide distributors with information and instructions for use related to the sale and distribution of foodstuffs.

8 Miscellaneous

8.1 Compliance with Food Regulations and Standards

Food establishments should not produce, import, sell or distribute any pre-packaged food that does not comply with the relevant technical regulations and standards approved for use in the UAE. The following requirements apply:

a. In order to identify and ensure that the product meets the approved standards, the standards related to the product must be obtained and reviewed, for example:
    i. The standard of the product itself.
    ii. The standards related to the product, such as the standard of labelling of prepackaged foodstuff, the standards of validity periods, the standard of food additives, the standard of microbiological limits, etc.
b. Information provided about the food in pictorial form or descriptive text, either in print or in digital format, shall not be false or misleading.
c. Illegal or unauthorized nomenclature, terminology, coding, illustration or photograph shall not be used on the packaging. This includes but is not limited to:
    i. Any words, expressions, pictures or symbols which are offensive to any religion.
    ii. Any photos, pictures, expressions or words which imply any immoral impressions.
    iii. Any words or expressions which are offensive to the traditions and values of the country or its symbols.
    iv. Any logos, symbols or statements used by the federal or local authorities.
d. Food establishments shall not modify food packages, food labels, or the shelf-life validity periods specified on the product. Under exceptional situations, food establishments can modify the label information with prior permit from the Food Safety Department based on extensive risk assessment.
e. The facilities that manufacture, produce, and package food must have a sampling system that includes products, equipment, work surfaces, and food handlers.

8.2 Food Additives

8.2.1 Conditions for the use of food additives

a. Food additives must be used based on the standards for additives in UAE. Where quantitative limitations are specified, the manufacturer must ensure that the quantity of additive used is subject to the limits specified in the standard. For additives where the limits are not specified, the manufacturer can use an international standard by the Codex Alimentarius Commission (Codex) or the guidelines of the European Food Safety Authority as a reference.
b. Food additives must be used so as not to exceed the limits specified for each product in the UAE standard for additives referred to in (a). In the event that there is no percentage of the additive in a product, it is important to conduct a scientific evaluation by the Department of the possibility of its addition.
c. Food additive manufacturers and suppliers should provide information on the safe use of the additive to the end user.
d. Food additives such as food colouring should not be used unless food handlers can demonstrate competence in using the additives safely and for the correct purposes.

8.2.2 Labeling Requirements for Food Additives

Labeling of commercially packaged foods must be based on UAE regulations.

a. If the product contains food additives in its ingredients, the name or international number of each additive and its function must be mentioned: Example: Citric acid (antioxidant) or E330 (antioxidant) Ethylene Diamine Tetraacetate (preservative) or E386 (preservative).

If any of the following coloring additives are added:

- Sunset yellow (E110).
- Quinoline yellow (E 104).
- Carmoisine (E 122).
- Allura red (E 129).
- Tartrazine (E 102).
- Ponceau 4R (E 124).

An (*) mark and the following warning must be provided in the ingredient information on the label in a clear and legible way "May have a negative effect on activity and concentration in children"

b. When used, the source of gelatine, lecithin, and mono and diglycerides must be declared on the label.

8.3 Product Shelf Life

8.3.1 Estimation of Shelf-life

a. Food manufacturers should validate shelf-life of products they produce and the safety and quality of food must be maintained as per the relevant food standards until the food is consumed.
b. If the food is imported, the importer should obtain documented evidence that shelf-life of the food is accurate and the safety and quality of the food will be maintained throughout the shelf-life in the environmental conditions of UAE.

c. The expiration dates of commercially packaged foods are classified into two categories, mandatory and optional, whereby the following conditions apply:

i. The validity periods of food products for the "mandatory category" were specified in the standard (UAE.S 150-1-2017) and accordingly, food establishments must ensure that the food shelf life does not exceed what is specified in this standard.
Baby food, products of animal origin, and some other products that are stored refrigerated fall into this category. Products in this category require both production and expiry dates to be mentioned on the product label or packaging, which in turn determines the shelf life of the product.

ii. The mandatory validity periods described in the standard (UAE.S 150-1-2017) must be adhered to, and it is strictly forbidden to market the product after the expiry of its validity period.

iii. The validity periods of the food products included under the "optional category" mentioned in the standard (UAE.S 150-2-2017) are estimated by the food manufacturer, and the expiry date must be mentioned on these products, and the date of production can be mentioned.

iv. There are some foods that are excluded from mentioning the expiration date, but the date of production, the year of harvest, or the date of packing should be written according to the nature of the product, and they are indicated in item (4/5) in the specification (UAE.S 150-2-2017)

v. It is prohibited to sell products with optional validity periods after their validity period has expired, and their validity periods can be extended under exceptional circumstances (such as applying food security standards) with prior approval from the administration, and when the product validity period is modified, information and evidence of obtaining the approval of the administration should be submitted to Any company to which food is supplied.

vi. The validity periods of the products that were not mentioned within the mandatory and optional specifications mentioned above are determined by the manufacturers based on acceptable scientific bases, and after consulting with the administration and obtaining its approval, so that the manufacturer guarantees the validity and safety of the product for consumption during the period set on its products.

d. The label of food products should specify any special storage conditions necessary to enable the consumer to maintain the safety and quality of the product, and details of how the product should be stored once the package has been opened, such as "refrigerate after opening" or "store in a cool dry place" should be specified and the duration should be specified Time to consumption if necessary, eg "Refrigerate after opening and use within 3 days".

e. Food establishments, such as restaurants, are not required to validate expiration dates for high-risk or perishable food prepared according to the process described in Clauses 3.2 to 3.4 of this Code if it has been stored for three days or less. However, food establishments must, as part of a food safety program audit, periodically check the effectiveness of control measures and the stability and suitability of the product during the shelf life.

f. Packaged perishable foods should be used after discarding their original packaging (eg canned food, juice bottles, etc.) as recommended by the manufacturer.

g. Catering establishments, such as restaurants, cafes and catering companies, may store food for the time periods specified below:

i. Fully cooked, ready-to-eat foods that are kept hot at 60°C or higher can be stored for a maximum of 4 hours after the food has been cooked.

ii. Fully cooked food, which has been rapidly cooled in accordance with the provisions of Section 3.2.12 of this Regulation, may be stored at or below 5°C for a maximum of 72 hours after cooling.

iii. High-risk cold foods on display, such as in buffets, should be kept at 5°C or less for no more than 4 hours. If the temperature of the warmest part of the food exceeds 5°C, but is still below 15°C, the food can be kept for a maximum of two hours.

iv. Fresh products of animal origin can be frozen for later use within the food establishment based on a documented procedure to be followed as part of the food safety management system of the establishment. The product must be frozen before half of its shelf life is completed before freezing, and the date of freezing must be indicated on the products. Records should be created to track each batch with the production and expiry dates that were on the original packaging.

v. Minced meat and raw meat products, which are produced from frozen meat, should be used within 72 hours of the start of thawing, and these products should not be refrozen.

h. Food validation studies shall be conducted in accordance with Section 8.2.2 to estimate the shelf life of ready-to-eat high-risk foods and high-risk ingredients stored for more than 72 hours. Verification should be done on a product-by-product basis, taking into account the relevant hazards, product characteristics, processing and storage conditions.

Note: The shelf life is the period of time during which the food maintains its safety and/or quality under relatively expected conditions of distribution, storage and use. This time period begins with the date of production and/or packaging and ends with the expiration date, noting that the responsibility for food safety rests with workers in the food sector.
Generally, the food manufacturer is responsible for determining and verifying food expiration dates. However, secondary manufacturers (packers and packaging companies), re-packers, caterers, food outlets, etc. may also be liable under certain circumstances.

8.3.2 Validation and Verification of Shelf-Life

a. Food shelf life assessments should be an integral part of the food establishment's procedures based on HACCP principles, taking into account the relatively predictable conditions of food distribution, storage and use, including consumer practices after the product is purchased. Food manufacturers or any food establishment that produces packaged food for sale must document all work related to estimating, determining and verifying food expiration dates as part of a food safety management system.
b. While determining the shelf life, the food establishment should take account of the following:
    i. rate of microbiological spoilage and maintaining the organoleptic quality under foreseen conditions of storage and use
    ii. identification of the relevant pathogenic/spoilage microorganism and its initial level,
    iii. characterization of the factors of the food affecting the growth behavior of the relevant pathogenic/spoilage microorganisms or their inactivation during storage until consumption
    iv. assessment of the growth behavior or inactivation of the pathogenic/spoilage microorganism in the food product during storage until consumption
    v. impact of preparation, processing, production, and packaging
    vi. expected environmental exposure of the food, and impact of consumer practices
    vii. Where predictive models are used for the evaluation of shelf life, the input parameters should be measured accurately to ensure that the estimations are correct
c. The establishment shall, as a part of the food safety management system, establish additional verification measures based on the following:
    i. controls on suppliers for assuring raw material quality;
    ii. analysis of trends in results of microbiological testing of raw materials and final products;
    iii. analysis of trends in results of microbiological testing of the process environment and equipment;
    iv. hygiene controls applied in the process environment;
    v. Shelf life of raw cereals, pulses and dry foods depend on the raw materials, storage and handling. Such products are exempt from the requirement for validation. However, such foods should be handled and stored in an appropriate manner.

Note: It is not possible to provide definitive advice for all circumstances on whether the freezing and refreezing of ambient and chilled food products can be undertaken. Equally, it is not possible to define how such products should be handled or processed when they are brought out of cold storage. This is because of the very wide range of products, industry practices and specific safety and hygiene requirements that could apply. Food establishments will need to consider the type of food to be frozen. 'Ready to Eat' foods which are designed to be consumed without a further processing step which would reduce risks from pathogens will require different considerations from those foods designed to be cooked following defrosting. The identification of the pathogens associated with raw materials and the production environment is critical for the accurate determination of a safe shelf-life. It is important to note that deviations from normal conditions, such as high levels of initial contamination in raw materials or elevated temperatures during storage or transport will impact on the safety of the product during its shelf-life. It is unlikely that this would lead to microbiological safety issues if commercial defrosting, processing and refreezing are carried out in a controlled way. This requires application of time and temperature combinations that prevent the growth of pathogens and hygienic conditions.

Rationale:

Validation study should take into consideration the intrinsic and extrinsic properties of the product that affect shelf-life. Intrinsic properties are those properties that are an inherent part of the food product such as pH and water activity. Extrinsic properties are the properties of the environment in which the food is stored such as temperature and atmosphere. In the case of high -risk products, shelf life could have a significant impact on the safety of the product. Product shelf life should be established by taking into account of the production environment, packaging and storage conditions, and the handling of the product.

8.3.3 Reducing food loss and waste

a. All food establishments should reduce food losses during handling by:
   i. Not setting strict conditions on suppliers regarding the validity of products.
   ii. Acceptance of displaying products whose expiration date is approaching, because all products mentioned in the specification of optional validity periods remain valid for human consumption, and therefore they can be displayed until the last day of their expiration date.
b. Food establishments should establish an institutional system to reduce food waste through:
   i. Donate food and foods that are in excess of the organization's needs or that were not sold to the Food Bank.
   ii. Not buying and storing large quantities of food, which leads to non-use and spoilage.
   iii. Use the "first- in- first- out" principle.

8.4 Product Menu and Food Related Claims

a. Food service establishments such as restaurants and cafeteria shall have product menu printed both in Arabic and English. Food containing non-Halal

ingredients must be clearly identified in the menu of food establishments authorized by the administration.

b. Food service establishments such as restaurants and cafeteria shall provide all information about the ingredients of the product when requested by the customer.
c. The list should include information about allergens for all foods.
d. Food establishments shall not make any claims about the food products or the process used for the production of food without valid proof for the claim. Claims could include, but are not limited to the organic origin of products or ingredient, nutrition and health claims, claims about the country or region of origin of the product etc.
e. The establishment shall not make any health or nutritional claims unless those claims are approved and the methods of application of the claim have been evaluated by the Department.

8.5 Filtration and Disinfection Facilities for Fish Tank Water

a. Water used for keeping marine live fish or shellfish intended for human consumption should be filtered and disinfected by filtration and disinfection facilities. These facilities should be maintained in good working order at all times.
b. The filtration / disinfection system should be a closed loop system capable of providing continuous filtration and disinfection action.
c. Dedicated staff should be assigned to take care of the cleaning and maintenance of the whole system.
d. Fish tank water should be changed regularly to remove harmful substances produced by the stock after a period of time.

8.6 Single-Use Items

When using single-use items (non-reusable) such as instrument, apparatus, utensil or any other item for handling of food, such as drinking straws, disposable eating and drinking utensils, disposable food containers and disposable gloves, tissue paper etc. the following conditions must be followed:

a. Such items shall be food grade & should be properly protected from risk of contamination by storing inside dust and pest proof containers or cupboards until they are used, and should be discarded if they are contaminated. They should not be re-used for any other purpose.
b. If gloves are used for handling food, the following must be adhered to :
    i. hands must be washed properly before wearing gloves and when they are removed;
    ii. only disposable gloves shall be used for single task, e.g. either handling ready-to-eat food or raw food;
    iii. the same disposable gloves should never be used to handle raw food and then ready-to-eat food;
    iv. They should be discarded if damaged, soiled, or when interruptions occur in the operation.
c. Food establishment without facilities for cleaning and sanitizing kitchenware and tableware shall provide only single-use kitchenware and articles.

Note: Gloves are not an alternative for proper hand washing.

Rationale:

Single-use items are not manufactured to permit effective cleaning and disinfecting. If these items are reused, food coming into contact with these items may become contaminated. Use of the same disposable gloves for handling raw and ready-to-eat food easily leads to cross-contamination.

8.7 Re-usable items used for food handling

When using re-usable items, such as reusable cloth gloves, metal mesh gloves, and heat-resistant mittens for food handling; such items must be kept in sanitary conditions to avoid contamination with foodborne pathogens. Soiled cloth gloves, metal mesh gloves, and heat-resistant mittens must be kept in designated bins until washed. Food establishment shall follow an efficient procedure to clean soiled re-usable items to eliminate the potential risk of contamination. The following conditions must be followed:

a. For cloth gloves, the following must be adhered to:
   i. Food –grade rubber or plastic gloves must be worn on top of cloth gloves.
   ii. Cloth gloves must be kept in sanitary condition and changed every 2 hours or as needed.

b. For metal mesh gloves and heat-resistant mittens, the following must be adhered to:

   i. Metal mesh gloves and heat-resistant mittens must be kept in sanitary condition and washed and/or changed as needed.

8.8 Animals and Pets

a. Animals, live birds, and pets such as dogs and cats are prohibited from entering food establishments with the exception of food service businesses that have prior permit.
b. Food service businesses such as restaurants and café can allow pets and service animals in the customer service area with prior approval from the concerned department(s). Such establishments should put a clear notice in English and Arabic outside the food establishment stating that "Pets are allowed in the facility" and it should be clearly visible to the consumers who walk in to the premises. However, pets and service animals are not allowed on the dining tables and chairs used by customers.
   i. In food establishments with approval under clause (b), the management shall clearly provide the guest at the point of entry with a written pet policy in English and Arabic on permissible behavior and interactions of the pets and service animals. The management of the food business will be solely responsible for any inconvenience or disturbance caused to the consumers.
   ii. The establishment must take adequate precautions to ensure that food, and the containers, utensils and equipment that come in contact with food for humans are protected from animal contact.
   iii. Pets and service animals should not be fed in the food service facility unless there are special facilities for feeding them. These facilities must be approved by the concerned department as a part of the design and layout.

8.9 Handling Non-Halal Foods

a. Halal is an Arabic word that translates to "allowed", "not forbidden" or "lawful." Foods Will be considered Halal if Halal animal, which products are used in food, was slaughtered as stated in Islamic law, does not contain non-Halal ingredients, and comply with the following conditions:

i. Halal foods shall not consist of or contain anything which is considered to be filthy or unlawful according to Islamic Law;
ii. Halal foods shall not have been prepared, processed, transported, or stored using any appliance, equipment, or facility that was filthy as stated in the Islamic Law;
iii. Halal meat and meat products shall be from a Halal animal that was slaughtered according to Islamic Law, and shall not contain any meat or derivatives from animals that are prohibited according to that Islamic Law;
iv. Halal food shall not, in the course of preparation, processing, transportation, or storage, be in direct contact with any food that fails to satisfy the conditions (i), (ii) & (iii), or any filthy substances according to Islamic Law
v. Halal food shall be free of toxic substances that pose a threat to human health

b. The term 'Non- Halal food' refers to foods, ingredients, and processing aids that are not Halal. Non-Halal foods include but are not limited to:
   i. Meat or other products of animal origin that do not meet the requirements for Halal foods;
   ii. Prohibited foods or ingredients derived from animals that have been identified by the department.
   iii. alcohol and intoxicating drinks and foods made with those
   iv. food additives obtained from sources that are not Halal.

8.9.1 General Requirements for handling Non-Halal Foods

a. Food establishments require an annual permit from the Food Safety Department to import, store, prepare, display, serve, trade, sell onsite or online, and deliver non-halal foods.
b. Food establishments shall ensure that non-Halal foods are physically segregated from Halal foods during transportation, storage, preparation, and display, and measures are taken to prevent any contact between Halal and non-Halal foods.
c. Depending on the type and nature of the food activity, food establishments shall require prior approval of the floor plan with details of equipment, storage, processing areas, and details of the process flow to obtain the non-Halal Food Permit.
d. The permit will be considered invalid if the requirements are not met at any point in time.

Subsequent clauses provide the details specific to the type and nature of food activities.

a. In addition to the requirements under Section 8.7.1, food importers and traders should ensure that non-Halal foods are sold only to food establishments that have permits to sell non-Halal foods.
b. When purchased within the Emirate of Dubai, non-Halal foods must be purchased from food establishments that have prior permits for the sale or/and preparation of Non-Halal foods/Products.
c. The label on packaged non-Halal foods shall meet the food labeling requirements as well as any other food safety and quality requirements applicable to that product.

8.9.2 Requirements for Storage, Transportation, and Handling of Non-Halal Foods

Non-Halal foods should always be transported and stored in a way that it does not come in contact with any other foods. The following requirements apply for non-Halal foods:

a. Non-Halal foods (pork and its products) must be transported in separate designated vehicles, or in vehicles that have physically separate and doored storage units for non-Halal foods. Such transportation units must be labeled as 'Non-Halal Foods Only' and shall not be used for Halal foods.
b. Frozen and chilled non-Halal foods of animal origin shall be stored in separate and designated equipment. There should be a clear and legible label on the equipment that states 'Non-Halal Foods Only' and such equipment shall not be used for any other foods other than Non-Halal foods.
c. Non-Halal dry foods shall be stored in separate designated shelves or areas with a clear and legible label that states 'Non-Halal Foods Only.' Such shelved shall not be used for the storage of any other products.
d. Non-halal beverages and drinks should be stored on designated shelves or racks separate from other beverages and drinks in a way that the containers are not in direct contact. Such shelve shall not be used for the storage of any other products.
e. The packaged pork food shall be clearly marked and the pork ingredients declared clearly and visually in Arabic and English.
f. The importer/trader has the primary responsibility to ensure that Halal food products are not mixed (in contact) with non-Halal food products.
g. The importer/trader must not sell non-halal food products to food establishments that don't have a prior permit to sell non-halal food products.
h. Food establishments that store non-Halal products in bulk such as warehouse facilities, logistics centers, and ship chandlers must adhere to the following additional requirements:
    i. The establishment must be an exclusive warehouse owned on a long-term lease (at least two years) by the establishment that holds the permit.
    ii. The minimum total area of the warehouse should be 5000 Square Feet, and a minimum of 10% of the space should be allocated for the storage and handling of Non-Halal foods.
    iii. The warehouse should be privately owned with a documented 'No Objection Certificate' from the owner of the business allowing the food establishment to store the product. Public warehouses such as in the market shall not be used for storage of Non-Halal foods.
    iv. The storage warehouse shall not be used for any purpose other than storing Non-Halal foods.
    v. When purchasing in the Emirate of Dubai, Non-Halal food products must be purchased only from food establishments that have a prior permit to sell and/or prepare Non-Halal food products.

8.9.3 Requirements for Preparation of Non-Halal Food

a. Before the construction of the Non -Halal food areas, the food establishment must obtain a non-Halal food permit from the Food Safety Department.
b. Non-Halal foods must be prepared, displayed, sold and stored in a separate food area specifically approved for non-Halal foods. Such preparation areas shall be physically separated from Halal food's preparation, storage, and handling areas.
c. Non-Halal foods shall not come in contact with any other food or be used as an ingredient or preparation aid during preparation and storage.

d. Food establishments shall not add alcohol as an ingredient or use it as a cooking aid unless the food is sold as 'Non-Halal Food.'
e. Equipment, utensils, and containers used for the preparation of non-Halal foods shall be clearly labeled and, where possible, colour coded for identification.
f. Cutting boards, knives and equipment used for Non-Halal food activities shall be separated and colour coded.
g. The equipment and utensils designated for Non-Halal foods preparation shall not be used for the preparation of Halal foods.
h. Cutlery, crockery, utensils and equipment used for Non-Halal foods shall be washed separately.
i. Access to the preparation area shall be restricted with doors, as much as practically possible, to designated food handlers.
j. Food handlers shall not handle Halal and non-Halal foods at the same time.
k. Non-Halal food must not be prepared or stored in the designated area for Halal food.
l. Where non-Halal Foods are handled, a signboard shall be placed in both Arabic and English language stating 'Non-halal Foods only.' The signage should be clearly visible to food handlers.

8.9.4 Serving Non-Halal Food/Products in Food Outlets

Restaurants in four and five Star hotels and Clubs can obtain approval to sell non-Halal foods (such as pork and alcoholic beverages) if a permission is obtained prior to building a separate kitchen and the following requirements are met along with the requirements provided under section 8.7.4.

a. The food establishment operator has the primary responsibility to inform the customer that the restaurant serves Non-Halal foods.
b. Non-Halal food or foods containing non-Halal ingredients must be identified in the printed and digital menu card as products that are non-Halal or as products that contain PORK or ALCOHOL. The print should be clear and legible for the customer.
c. Outlets that display or serve non-Halal foods as a part of the buffet services shall have a separate and designated counter for non-Halal foods and the counter must be placed at least 2 meters away from Halal foods.
d. When on display, non-Halal Food shall be clearly identified with a bold and legible label in Arabic and English.
e. Non-Halal and Halal foods shall not be served together. Separate serving utensils and equipment must be used.
f. The food establishment shall not add alcohol to any type of food during cooking or in cooked food until it has a separate Non-Halal kitchen and obtains a permit from the department.

8.9.5 Sale of Non-Halal Food

a. A departmental store or supermarket can display and sell non-Halal foods to consumers after obtaining prior approval and an annual permit from the Department.
b. Non-Halal food permits will be issued only to departmental stores and supermarkets that have a total floor area of not less than 5000 Square Feet.
c. Space provided for pork products should be adequate and based on the extent of activity. Preparation and storage facilities shall be provided within the non-Halal food area based on the requirements listed under section 8.7.4 of this code.
d. The preparation area, including butchery for non-Halal foods, must be in an enclosed area with a door and clear signage on the door stating "Non-Halal Foods Only."
e. If there is a butchery for trading pork products, it should be separate and equipped with all necessary supplies, according to the approved scheme.
f. Departmental stores and supermarkets must have a designated person to handle non-Halal food/products, and a separate cash counter to sell such products.

Note: *Establishments with permission before 2023 can continue to renew their permit that was issued based on the 2013 Food Code.*

8.10 Product Traceability and Recall

a. A system to ensure traceability of food and any other substance intended to be or expected to be incorporated into a food should be established at all stages of food importation, production, processing and distribution.
b. All food items imported, sold, consigned or delivered into the Emirate of Dubai must be registered with the Food Safety Department.
c. Food establishments shall be able to identify any person/establishment that has supplied them with, or any substance intended to be, or expected to be, incorporated into food or packaging material. To this end, establishments should have in place documented systems and procedures which allow for this information to be made available to the Food safety Department if required.
d. Food manufacturers should have a system to identify and trace product lots and follow this through all raw materials (including ingredients, all types of packaging materials and processing aids), all stages of processing and distribution of the finished product to the customers in a timely manner.
e. Food establishments shall have in place documented systems and procedures to identify businesses to which their products have been supplied. This information should be made available to the Food Safety Department when required.
f. Food which is placed on the market or is likely to be placed on the market in the community shall be adequately labelled or identified to facilitate its traceability, through relevant documentation or information in accordance with these regulations.
g. Food manufacturers, importers and distributors shall promptly withdraw or recall food products they import, produce or distribute to other establishments if such foods are found to be unacceptable, unsafe or adulterated, or do not conform to the Islamic law or the traditions and norms in the United Arab Emirates.
h. Food manufacturers, importers and distributors shall promptly recall foods if the Food safety Department or other concerned authorities issue a memorandum or a decree to recall specific food form Dubai markets.
i. Food establishments shall notify the Food safety Department in the event of a withdrawal or a recall. Consumers should be notified if the product has entered the market and has reached the consumers.

8.11 Customer Complaint Handling

a. The food establishment should have a customer complaint handling system that gives guidance on how to respond, investigate and take preventive action when there is a food related complaint.
b. All food related complaints which include product related complaints and complaints pertaining to suspected foodborne illnesses should be logged in the complaints record.
c. Complaints must be investigated promptly and efficiently, and the details of investigation and corrective action must be retained for a period of at least one year.
d. Food establishment operator must contact the Food Safety Department immediately if:
    i. an outbreak of foodborne disease is suspected;
    ii. a customer is injured or is critically sick.

Note: *A foodborne-disease outbreak is defined as an incident in which two or more persons experience a similar illness resulting from the ingestion of a common food.*

8.12 Use of Wood in Food Establishment

a. Hard maple or an equivalently hard, close-grained wood may be used for cutting boards, cutting blocks, bakers' tables; and utensils such as rolling pins, doughnut dowels, salad bowls, and chopsticks. Such items should be suitable for contact with food, disinfection, and be maintained well.
b. Wooden pallets should be handled and stored in a way that poses no threat to the safety of the food. When wooden pallets are used:
    i. the food safety program should include a 'wood use policy' that clearly states where wooden pallets will be used
    ii. An effective documented verification practice must be in place to ensure that the pallets are clean and free of damage and pests.

Note: *Both wooden and plastic pallets should be clean and free of damage. Chipping of wood can lead to contamination of food and measures should be in place to ensure that equipment are well maintained.*

Rationale:

The limited acceptance of wood as a food contact surface is determined by the nature of the food and the type of wood used. Moist foods may cause the wood surface to deteriorate and the surface may become difficult to clean. In addition, wood that is treated with certain preservatives may lead to illness due to the migration of the preservative chemicals in the wood, into the food. Soft wood shouldn't be used if in contact with food

8.13 Use of Linens and Other Accessories

a. Use of cloths for drying of food contact surfaces of equipment is not recommended as the cloth is likely to contain bacteria or contaminants that would be transmitted to the equipment during the drying process. Food contact surfaces should be air dried. Dry clothes or disposable paper towels may be used for polishing dried utensils.
b. Aprons, clothing and uniforms should be clean and fit to wear. Buttons should preferably be avoided for those who directly handle food to prevent them from falling into food. Protective clothing should be washed at least once a day, or when it becomes soiled or sticky.
c. Linens such as wiping towels, table cloths, aprons, clothing, uniforms, etc. may be used in food establishment. They should be of light-color, kept clean and in a hygienic condition.
d. The following conditions shall be adhered when linens are used :
    i. Clean linens should be free from food residues or other soiling. They should be washed if they become wet, sticky or soiled
    ii. Linens should be cleaned and disinfected as often as necessary. This may be achieved by a hot wash in a commercial washing machine, by immersing in boiling water for not less than one minute or by using a disinfection agent approved by the concerned department
    iii. Linens should be used for single purpose only. For example, wiping towels used for wiping food spills on table surfaces should not be used for any other purpose such as for polishing dried utensils or wiping surfaces used for raw animal foods
    iv. Soiled linens should be kept in suitable receptacles or laundry bags away from food preparation areas to prevent contamination of food, food contact surfaces, food equipment and utensils.
e. Table cloths should be cleaned after each use as they have been in contact with food remnants and debris.
f. Menu cards that come in contact with hands, food remnants and debris should be kept clean at all times.

Rationale:

Linens are likely to contain foreign substances such as hair, dirt and micro-organisms, all of which would contaminate food and equipment. They should not be allowed to come into contact with food or food equipment / utensils unless thoroughly cleaned and disinfected. Napkins and menu cards for customers may help transmit diseases from person to person, unless adequately cleaned and disinfected after each use.

8.14 Food Fraud

Food fraud is an act of an intentional or deliberate addition, substitution, alteration or misrepresentation of food product, ingredients, label or packaging to hide the true identity or contents of a food ingredient or product for economic gain.

a. The establishment must consider known or reasonably foreseeable hazards that may be intentionally introduced for purpose of economic gain while identifying the potential hazards in the HACCP/food safety plan as mentioned in clause (3.1.3).
b. A food establishment shall prepare, implement and document a Food Fraud Vulnerability Control Plan, which includes:
    i. Documented vulnerability assessment using suitable methods to identify significant vulnerabilities at each step, process and procedure for each food type manufactured, processed, packed or stored at food establishment.
    ii. Documented and systematic identification of control measures to ensure that the significant vulnerability identified at each process step is minimized or prevented.
    iii. Documented procedure for the systematic monitoring of control measures.
    iv. Appropriate corrective action as appropriate to the nature of the process and the control measures.
    v. Regular verification of the program
    vi. Appropriate records to demonstrate the compliance with the requirements of this clause.

8.15 Emergency Preparedness Plan

The food establishments shall have systems in place to ensure emergency situations that may originate within the organization and have the potential to affect food, or may be an environmental condition or a public health issue that has the potential to affect the food establishment.

a. Food establishment shall establish, implement, and maintain a procedure to:
    i. Identify potential emergency scenarios including pandemics, outbreaks, natural disasters, interruptions in power supply, disruptions in food supply chain, large equipment failure etc.
    ii. Identify potential accidents and their probabilities
    iii. Respond to accidents and emergencies based on a documented plan depending upon the risk and nature of the emergency;
    iv. Prevent and mitigate any food safety impacts and risks that may be associated with emergencies

v. Identify roles and responsibilities of key personnel involved in emergency preparedness programs
vi. Document list of actions for different emergencies, identify training needs and train staff as necessary
vii. Create a communication plan for internal and external emergencies

b. Food establishments must take appropriate actions suitable to the type, extent and potential food safety impact in order to reduce the consequences.
c. If there are stakeholders or interested parties externally, they should be made aware of the arrangements and when necessary trained if they are required to participate in the emergency response.
d. When emergency procedures are provided by Dubai Municipality or by any concerned government authority, the requirements shall be adhered to. Notifications must be sent to the concerned authorities immediately whenever necessary.