

## **CONDITIONS OF LICENSING OF FOOD ESTABLISHMENTS**

The following licensing conditions are meant to help you set up your food establishment with the proper infrastructures and features to be incorporated during the design of the premises to ensure food safety.

Please go through these conditions carefully as having a proper establishment set-up is of great importance and will help you minimise any unnecessary inconvenience and cost arising from the need for remedial action. If you have any clarification, our officer would be most willing to assist you.

### **FOOD PREMISES**

- a. Landscaping is to be so designed to minimize attractants and harbourages for pests.
- b. Building and facilities are to be of sound construction and maintained in good repair.
- c. Construction materials must not transmit any undesirable substances to the food.
- d. The premises are to be designed to allow easy cleaning and to facilitate proper supervision of food hygiene.
- e. Building and facilities are to be designed to prevent entry of pests, birds, vermin, rodents and environmental contaminants such as smoke, dust, etc.
- f. Openings into the building have to be screened to rodent proof the premises. Doors must have good fittings to both the frames and the floors. Windows must be well fitted and protected with wire screening.
- g. Control devices are to be incorporated into the building design. Ad-hoc installation should be kept minimum.
- h. Building and facilities are to be designed to provide separation by partition, location or other effective means, between those operations that may cause contamination.
- i. Building and facilities are to be designed to facilitate hygiene operations by means of a controlled and regulated flow in the process from the arrival of the raw material at the premises to the finished products and should provide for appropriate temperature for the process and products.

### **FACTORY LAYOUT**

- a. There must be separate work areas in the premises. The workflow is to be smooth and straight with minimal criss-crossing and no back tracking. This is to minimize cross-contamination.

- b. There are to be different separately labelled storage areas for the raw materials, final products, chilled products, frozen products, packaging materials, cleaning equipment, etc. The First-In-First-Out system has to be practised.
- c. The food premises must also have a staff room and sufficient sanitary facilities.
- d. The factory layout is to be designed to minimize non-essential personal traffic from passing through the processing and packaging areas.
- e. The factory layout is to be designed in order that the processing area does not open directly into outdoor areas.
- f. Where necessary, the food processing and packing areas are to be air-conditioned.
- g. All surfaces in contact with food have to be inert, non-toxic, smooth and non-porous.
- h. The product stream must be covered. Pipes conduit and mechanisms are to be avoided directly above the product stream. Whenever possible and practical, piping and electrical conduits are to be enclosed.

### **EASE OF CLEANING**

- a. Are all your equipment and structures necessary?
- b. Construct the factory such that to facilitate cleaning by using enclosures, coving corners, sloping flat surfaces, providing smooth surfaces, filling in dead spots or providing adequate cleaning clearances.
- c. Ensure there are no dripping edges by using curbs or using sleeves.
- d. Do not have floor attachments by combining supports, using ceiling supports, mounting off adjacent equipment or mounting off walls.

### **FLOORS**

- a. Floors are to be constructed of durable, impervious, non-toxic, non-absorbent and crack-resistant materials. Surfaces are to be non-slipped and easy to clean.
- b. If concrete is used, it must be sufficiently dense and of good quality. The surface has to be well finished to render it waterproof.
- c. For floor tiles, acid-resistant materials are to be used for joints.
- d. Floors are to be totally resistant to materials that may come in contact with.
- e. Floors are to be even and sloped towards the floor traps or internal drains to prevent ponding.

- f. Protective baseboard is to be mounted flush with floor and wall to eliminate cracks. (Fine wire mesh embedded at floor-wall junction helps keep rodents from burrowing into building).
- g. The junction between the floors and walls are to be impervious to water and to be covered for ease of cleaning.
- h. Provisions are to be made for enough floor drains or floor traps to divert all wastewater to the sewer. As a general rule, one 10 cm diameter drain should be provided for each 37 m<sup>2</sup> of floor space.
- i. If floors are ribbed or grooved to facilitate traction, any grooving of this nature is to run towards the drainage channels.

### **DRAINS**

- a. Drains are to be properly located, trapped and vented.
- b. Drains are to be of suitable type, equipped with traps and removable grating to permit cleaning.
- c. Drains are to be designed to prevent water retention in or around the drain.
- d. Drains must be designed to carry the maximum anticipated load to prevent any problem of flooding at your premises.
- e. Dock levels are to be sufficiently above grade to prevent rodent from entering.

### **INTERNAL WALLS**

- a. Walls are to be of smooth, impervious, crack-resistant materials that can be cleaned easily. They are to be painted with an easily cleaned and durable white or light colour.
- b. Acceptable materials for wall finishing are cement rendered, ceramic tiles, rust resistant, metallic sheeting such as stainless steel or aluminium alloys and non-metallic sheeting which have adequate impact resistance, desirable surface qualities and are easily repairable.
- c. All sheeting joints are to be welded or sealed with mastic or other compounds which are resistant to heat and mould growth. Cover strips are to be applied where necessary.
- d. Walls must be free of ledges as these are not desirable structures within a premises. If ledges are unavoidable, they have to be sloped to a 45-degree angle to avoid the ledges from being used for placing of article.
- e. Walls of cooking area are to be embedded with stainless steel sheets up to cooker-hood height for easy cleaning. The edges of the steel plates lined to the walls are to be well sealed.

- f. Where there is a neighbouring premises, the walls to the cooking area must be insulated before the steel are installed in order to minimize heat transfer.
- g. All internal wall partitions for separation have to be erected up to height of ceiling to eliminate cross-contamination.
- h. If pipes, conveyors and similar items pass through walls, they are either to be sealed to the walls or to be provided with sufficient clearance for inspection and cleaning.
- i. All pipes and cables are to neatly boxed in and sealed to the wall or neatly boxed in at a level at least 1.5 meters above ground level and mounted from the wall to allow for adequate cleaning and preventing insect harbourage.
- j. Wall-to-wall junctions are to be coved or rounded to facilitate cleaning.
- k. The edges of walls, especially at the base, are to be protected with sanitary bumpers or coved curbs to prevent the walls from chipping since chipped walls are bacteria and insect breeding places.
- l. Crevices at wall-ceiling junctions are to be eliminated to prevent insect or rodent harbourage.

## **WINDOWS**

- a. Unless necessary, do not put in extra windows. If windows are required, and if they must be left opened, removable screens are to be used to minimise dust and pest entry. The removable screens are necessary for easy cleaning.
- b. Windows sills and frames are to be made of smooth, waterproof materials.
- c. Windows sills are to be kept to a minimum size, sloped to a 45-degree angle and be at least 1 metre from the floor.

## **DOORS**

- a. Doorway through which food products are conveyed, should be sufficiently wide and doors should be tight fitting and self-closing to prevent pest entry.
- b. Doors are to be constructed of impervious and impact-resistant materials.
- c. Doors are to be of stainless steel, aluminium or corrugated metal, with no holes or crevices, and the joints and hinges are to be rust resistant.
- d. Both doors and frames of doorways must have smooth and readily cleanable surfaces.

## CEILINGS

- a. Ceiling must be of crack and moisture resistant materials.
- b. The surfaces of ceiling have to be treated or painted to avoid oil absorption where appropriate.
- c. Ceilings are to be painted with light colour.
- d. Proper vents are to be installed to prevent moisture accumulation over areas and equipment that release steam.
- e. Ceilings in the processing area are to be cleared of any fixtures that may contaminate food and equipment.
- f. Horizontal beams, pipes and similar items are to be avoided over exposed products areas and food contact surfaces.
- g. In building where beams, trussed, pipes or other structural elements are exposed, the fitting of a suspended ceiling just below is desirable.
- h. Dropped ceilings are to be avoided in manufacturing areas. If false ceiling are needed, they are to be sloped at 45-degree angle to the wall to prevent placing of article.
- i. If ceiling ducts are used, these have to be rectangular and installed right against the ceiling with its junction sealed.
- j. Ceiling crevices are to be eliminated between pipes, supports hangers, etc. by caulking.

## LIGHTING

- a. Adequate lightings have to be provided at work areas. In general working area, a minimum illumination of 220 lux should be provided and where close examination of products is carried out, the illumination should not be less than 540 lux.
- b. There must be proper lighting at dark corners in the building, and at openings into the building to prevent entry and harbourage of pest.
- c. Lighting is not allowed to alter the colour of food.
- d. Lighting sources are to be enclosed to avoid falling glasses or other materials from breakage that may be introduced into the food during manufacturing.
- e. Lighting fixtures must be watertight to permit hose down.
- f. Ultra-violet insect trap should be provided at strategic location in the premises where insects may enter.

## **VENTILATION**

- a. Food factory has to be well ventilated to prevent excessive heat, condensation and contamination with odours, dusts, vapour or smoke.
- b. Adequate extractor fans within the food processing area are to be provided to ensure adequate ventilation.
- c. Air supply and extraction trunking should not introduce contaminants.
- d. Ventilation openings are to be screened and equipped with proper air filters.
- e. The screens are to be easily removable for cleaning.

## **STORAGE FACILITIES**

- a. Separate facilities are to be provided for the storage of dry materials, such as raw materials, dry ingredients and packaging materials.
- b. Separate holding areas are to be provided for storage of finished products.
- c. The stores for raw materials, dry ingredients, final products and packaging materials are to be rodent proof.
- d. Sufficient shelving racks are to be provided and are to be made of impervious, durable and corrosion-resistant materials.
- e. Food products are to be placed on racks. The lowest shelf should be at least 30 cm above the ground level.

## **COLD STORES FOR PERISHABLE PRODUCTS**

- a. Cold stores are to be designed by taking into account of the intended food products, storage time and the optimal temperature requirements.
- b. Freezer stores are to be designed to have sufficient freezing capacity to maintain a temperature for products already frozen with a minimum  $-18^{\circ}\text{C}$  or lower.
- c. Chill stores are to be designed to have sufficient refrigeration capacity to maintain the temperature of product at  $-4^{\circ}\text{C}$  to  $7^{\circ}\text{C}$ , depending on the food products to be stored.
- d. Cold stores are to be designed to have fluctuation of not exceeding  $2^{\circ}\text{C}$  in air temperature.
- e. Cold stores are to be equipped with temperature gauge and temperature on-line recorder.
- f. Cold stores are to be equipped with an automatic temperature control system to alert technical personnel when temperature rises above the set temperature.

- g. A good vapour seal is required on the outside surface of freezer stores. Precautions are to be taken to avoid danger of frost heave from the subsoil.
- h. Loading and unloading bay are to be designed to allow transfer of products between cold store and refrigerated vehicle with the least exposure to ambient temperature and with the least possible handling.
- i. Inflow of the outside air into the cold store should be minimized as much as possible. Where the door of cold store has to be opened frequently, using air lock chamber, a cold curtain, self-closing shutter or other similar devices can minimize air flowing into the store.
- j. Air velocity in the freezer room is to be moderate and no higher than necessary to achieve sufficiently uniform temperature within the store. Cold store chamber should have sufficient air circulation and proper air distribution to eliminate hot spots and stratification of air layers (warmest air rising to ceiling).
- k. Provision is to be made for an automatic, effective and regular defrosting of the freezer store surfaces.
- l. All cold stores are to be fitted with an alarm device, which can be operated from the inside, so that anyone trapped inside can seek assistance at once. Alarm should be installed in a work area where someone is always on duty.
- m. Cold stores are to be provided with a 46 cm white perimeter strip to identify storage limits at interior wall junctions with steel guard to protect the wall.
- n. All cold rooms are to be provided with proper racking systems using stainless steel with the lowest shelf at least 30 cm above the base of the cold stores for the storage of foods.
- o. A heavy duty and non-slipped flooring is to be provided for each cold store.
- p. Cold stores are to be designed by an expert and constructed by craftsmen competent and experienced in this field.

## **EQUIPMENT**

- a. All surfaces in contact with the process stream are to be inert to food under the conditions of use and do not migrate to or are absorbed by food.
- b. Construction materials have to be selected to resist wear and corrosion.
- c. All surfaces in contact with food are to be smooth and non-porous so that tiny particles of food, bacteria, mould or insect eggs are not caught in microscopic surface crevices where they are difficult to dislodge, and thus a potential source of contamination.
- d. All surfaces in contact with food are to be readily accessible for manual cleaning or if not readily accessible, the equipment are to be readily disassembled for manual cleaning, or if mechanical, such as clean-in-place techniques are used, it should be demonstrated that the

results achieved without disassembly are the equivalent of those obtained with disassembly and manual cleaning.

- e. All interior surfaces in contact with food are to be arranged in order that the equipment is self-emptying and self-draining.
- f. All equipment is to be mounted at least 91 cm from the wall and there shall be at least 91 cm allowed between all equipment. If this is not desired, the equipment shall be sealed against the wall by caulking.
- g. All equipment is to be mounted at least 15 cm off the floor and with a clearance of at least 46 cm from the ceiling.
- h. The equipment is to be so designed to protect the contents from external contamination.
- i. The exterior or non-product contact surfaces are to be arranged to prevent harbouring of soils, bacteria or pests in and on the equipment itself as well as in its contacts with other equipment, floors. Walls or hanging supports.
- j. Equipment requiring adjustment during operation are to be so designed in order that operators will not place their hands within the product zone to avoid any contamination.
- k. All inside corners are to be provided with internal angles of a radius of 5 mm or greater to provide easy cleaning.
- l. All openings into equipment are to be protected against any entrance of contaminants as a function of the action of opening or when it is left opened.
- m. Agitators are to be installed from the sides of vessels and be easily dismantled for shaft cleaning; otherwise these must be so designed to eliminate possible lubricant contamination or any other sources of contamination.
- n. The motors used for the mixers should be either angled away from the openings of the mixers or covered. This is to prevent dust and dirt from the motors from falling into the food.
- o. Gasketing must be selected and installed to provide the desired seal, not contribute contamination, and allow cleaning.
- p. Bearings have either to be sealed or self-lubricated and installed external to the product zone. If lubricants are unavoidable, these must be of food grade.
- q. Pipes serving equipment are to mount between 2.5 and 10 cm from the wall, depending on diameter of pipe, and from other pipes. Pipe or conduit to floor clearance are to be at least 30 cm.
- r. Floor attachments must be minimized for easy cleaning.
- s. Joints have to be free of fractures.

- t. Flexible pipes are to be non-porous, not affected by food or cleaning compounds, and of sections not over 1 meter long.
- u. Pumps, valves and fittings are to be readily removable, completely self-draining, and with no internal bypasses.
- v. Food grade lubricants are to be used for machines or equipment.
- w. Items such as filters, screens, etc, must be readily removable for inspection, replacement and cleaning.
- x. Where cooking or trying of food is involved, a hood and flue system fitted with grease filters and a motor-extractor fan are to be provided over the entire cooking range to extract the fume, smoke and heat emission. The extracted air is to be vented through a flue connected to a point above the roof of the premises or away from the neighbouring premises.
- y. There must be sufficient preparation tables, shelving racks and these are to be made of impervious, durable and rust free materials. For trolleys and racks, the lowest shelf is to be at least 30 cm above ground level.

### **WASHING FACILITIES FOR EQUIPMENT**

- a. Facilities are to be provided for cleaning and disinfecting of equipment and working implements.
- b. These facilities are to be located in separate room or in a curbed designated area where there is an adequate supply of hot and cold potable water with proper drainage.
- c. A commercial sink is to be provided in the processing area for washing. A stainless steel splashboard to 1-meter height is to be lined above the sink.

### **SANITARY FACILITIES**

- a. Toilets facilities are to be provided within the food premises but they must be separated and away from the food processing area.
- b. Toilet door are to be self-closing.
- c. Auto-sensor or foot-operated tap for wash hand sinks complete with liquid soap dispenser and disposable paper towels should be provided at a convenient location.

### **STAFF ROOM**

- a. The personnel areas like a staff room are to be properly separated from the processing areas.
- b. Proper personnel facilities like clothing changing and welfare rooms are to be provided.

- c. A first-aid box complete with first-aid kits is also a necessity.
- d. Workers are to be provided with lockers that are sloped at the top to prevent accumulation of dust and debris. The base of the lockers is to be sealed to a concrete base.

### **STORES FOR HARMFUL MATERIALS**

Poisonous or harmful materials including cleaning compounds, disinfectants and insecticides are to be stored in separate rooms designed and marked specially for this purpose.

### **REFUSE DISPOSAL SYSTEM**

- a. A separate refuse compartment is to be provided if offal or other refuse are to be collected and held before removal.
- b. Adequate precaution is to be taken to protect the wastes against rodents, insects and exposure to warm temperatures.
- c. Sufficient refuse receptacles should be durable, easy to clean and of adequate capacity and mounted above ground level either on stand or rollers.
- d. Wastes generated should be removed promptly and efficiently in suitable receptacles with tight-fitting lids or covers to prevent pest and rodent feeding on the wastes.

### **MODE OF FOOD TRANSPORTATION**

- a. The mode of transport selected for delivering the products must be correct. Covered van or truck with racks or other necessary facilities are to be used.
- b. Where necessary, vehicles should come with cold store. The cold store vehicle should be fitted with temperature recording device to monitor the storage temperature.
- c. Internal of the vehicles are to be lined with stainless steel sheet or other impervious materials up to roof height. Vehicles used for transporting cooked food should not be used for other purpose.

### **MISCELLANEOUS**

- a. You should be familiar with the requirements of the Sale of Food Act (Chapter 283) and the Wholesome Meat and Fish Act (Chapter 349A), and all the Regulations under the Acts. You should ensure that food manufactured meet the requirements of the Food Laws.
- b. Workers are to be provided with proper working attire and where necessary, with mouth mask, hand gloves and headgear for handling food. Workers must be sent for Typhoid inoculation. They have to be given tips on hygiene and sanitation.

- c. A hygiene officer must be employed to ensure that workers know what to do concerning hygiene and sanitation and to ensure cleanliness of your factory.
- d. Fork lifts and other trucks used within the premises are to be battery operated to reduce environmental contaminants with the factory.

## **THE HAZARD ANALYSIS CRITICAL CONTROL POINTS (HACCP) SYSTEM**

HACCP is a systematic approach to food safety, consisting of the seven following principles:

- I. Assess hazards and risks associated with growing, harvesting, raw materials and ingredients, processing, manufacturing, distributing, marketing, preparing and consuming of food by providing a systematic evaluation of a specific food and its ingredients or components to determine the risks from hazardous micro-organisms or their toxins.
- II. Determine Critical Control Point (CCP) required to control the identified hazards. CCP is defined as any point or procedure in a specific food system where a loss of control may result in an unacceptable health risk.
- III. Establish the critical limits that must be met at each identified CCP. A critical limit is defined as one or more prescribed tolerances that must be met to ensure that a CCP controls a microbiological hazard effectively.
- IV. Establish procedures to monitor CCP. Monitoring is the scheduled testing or observation of a CCP and its limits.
- V. Establish corrective action to be taken when there is a deviation identified by monitoring a CCP. Action taken must eliminate the actual or potential hazard that was created by deviation from the HACCP plan, and assure the safe disposition of the product involved.
- VI. Establish effective record keeping systems that document the HACCP plan. The HACCP plan must be on a file to be kept at the food factory.
- VII. Establish procedures for verification that the HACCP system is working correctly. Verification consists of methods, procedures and tests used to determine that the HACCP system is in compliance with the HACCP plan.

Through the implementation of a comprehensive HACCP plan, food safety levels can be effectively controlled. Such a plan basically identifies all potential health hazards present in the process pathway and formulates strategies to eliminate every hazard completely.

## **REFERENCES**

- a. Sale of Food Act Chapter 283
- b. Food Regulations and its Amendments

- c. Sale of Food (Food Establishments) Regulations 2002
- d. Code of Practice on Pollution Control
- e. Code of Practice on Sanitary Plumbing and Drainage System

### **FOOTNOTE**

Please take note that the above licensing conditions are applicable to all trades. Where necessary, additional relevant conditions would be imposed for a specific trade.

In conclusion, we would like to see that your establishment is properly set up for the success of your business and also for public health.