

3.0 Control of Food Hazards

(this is not a regulatory requirement, but is recommended)

3.1 Control Measures

3.1.1 Supervision

- a) The operator of a food premise shall provide effective supervision, in implementing safe food practices, addressing potential food risks, and, where necessary, taking appropriate corrective action(s).
- b) Trained personnel shall be accessible at all times during foodservice operations.

Rationale

The effectiveness of any management system is only as good as an organization's capacity to carry it out. It is essential that knowledgeable supervisory staff is available and accessible during all hours of operation to respond to various food hazard concerns and to apply corrective actions.

3.1.2 Management Systems

An operator of a food establishment should implement and maintain a management system to prevent contamination of food during critical phases of food production.

Rationale

In food establishment, it is necessary to outline specific procedures for product safety. Each product type has its own specific risk characteristic that is based upon scientific data.

The potential for biological, chemical and physical hazards may vary considerably from one food product to another. Specific hazards, as well as allergens (see Appendix C) having the potential to cause an adverse health effect, need to be identified, as do the preventative measures for their control.

3.1.3 Control Principles

- a) The management system referred to in Section 3.1.2 should:
 - i) identify critical control points in the production and processing of menu items with potentially hazardous ingredients (including raw ingredients) that have the potential to contaminate food;
 - ii) include critical limits for each critical control point;

- iii) identify procedures to regularly monitor critical control points on the critical limits;
 - iv) include corrective actions and procedures to follow when deviations from critical limits occur; and
 - v) record all exceptions to the procedures/specifications that impact food safety.
- b) The principles listed above regarding hazard analysis and the identification of critical control points are an effective means of controlling food hazards, particularly in a food processing organization. However, the operations of a food establishment are very different from that of a food processor. For example, a food establishment can process a large number of food items simultaneously while a food processor generally processes one or two items at a time. The application of this type of management system may need to be modified in a food establishment.

As such, the requirement for the application of this type of management system in a food establishment must be balanced by a number of factors including:

- i) Are the premises capable of instituting this type of management system for foods being served? This will be dependent on a number of factors including the level of technical expertise of the operator, the number and variety of menu items served, and the type of processes used.
- ii) What is the public health risk of the foods being served in the premises? There are several factors which will determine the level of risk including:
 - Who are the predominant customers or clientele of the premises? Consumers that are considered high risk include the elderly, young children and immune compromised individuals. These consumers will have a lower resistance to foodborne illness and may have more severe outcomes from illness.
 - Does the type of operation increase the level of risk? Types of operation that can be considered high risk include:
 - large volume operations,
 - full service kitchens,
 - premises with a large menu item list,
 - premises that prepare foods with complicated or multi-step recipes, and
 - catering operations.
 - What is the level of knowledge of the operator and the food handlers with regard to food safety? Individuals with little or no knowledge can increase the level of risk of the premises.
 - Does the premises have adequate equipment for the types of processes or volumes of food being processed (e.g., cooling capacity, cold storage capacity, hot holding capacity, etc.)?
 - Are the processes that are being used those that are known to contribute to foodborne illness (e.g., bulk cooling, preparation of menu items well in advance of serving, bulk

cooking, simultaneous preparation of raw and cooked foods, etc.)?

Premises, which are determined to be high risk, may benefit from the management system described in Section 3.1.3 a) above.

- c) In those premises where the risk of foodborne disease outbreak is lower, or the cost and resources necessary to implement the management system outweigh the benefits, the operator may wish to institute an alternative management system. Examples of such alternatives are:

For small operations with a limited number of menu items and simple processes (i.e., cook/serve), the operator should have a good knowledge of the hazards and the critical control points of the process and implement some monitoring of the critical control points.

For larger operations with several menu items, the operator should prioritize the menu items based upon low, medium and high risk of causing a foodborne illness. The operator should then concentrate available time and resources into monitoring critical control points on the high-risk items.

For larger operations with several menu items and processes, the operator should concentrate on high risk processes (i.e., cooling and cooking) rather than identifying high hazard activities for individual foods. By controlling and monitoring a process, such as cooling, all foods that are prepared using the process will be handled appropriately.

The above alternatives are only examples of management systems that can be considered. There may be others that are appropriate. Not all food establishments can adhere to one particular management system. The objective of the management system that is used is to ensure control of the potential hazards in the food establishment.

Rationale

Operators need to determine the steps in each operation that require effective controls to eliminate hazards or to minimize the probability of those hazards arising. For high risk, potentially hazardous products, this includes establishing critical limits and a monitoring system, including record keeping, ensuring control, as well as a corrective action plan to be taken when deviations occur.

Risk-based management systems are widely accepted as an effective means of controlling food related risks and minimizing the potential of foodborne illness outbreaks.

3.1.4 Record Keeping

- a) Records required pursuant to Section 3.1.3 (a)(v) should be maintained and available for review for at least a three-month period.

- b) Records relating to the implementation of corrective actions in managing an incident involving a potential risk to food safety or a departure from a critical control point must be retained for a period determined by the regional health authority.

3.2 Incoming Material

3.2.1 Sources

3.2.1.1 Approved Sources

- a) All food and food ingredients received at a food establishment must be from approved sources.
- b) Section a) above applies to:
 - i) potentially hazardous food and food ingredients such as meat, poultry, fish, egg and milk, and others capable of supporting the growth of pathogenic microorganisms or the production of toxins;
 - ii) food in hermetically sealed containers; and
 - iii) game animals from commercial game farms that raise, slaughter and process the animals as per the regulatory authority having jurisdiction.

3.2.1.2 Unapproved Sources

- a) Food prepared in a private home or any other place that is not approved shall not be used or offered for human consumption in a food establishment except one operated as a Farmers Market
- b) Wild game that has not been inspected and approved shall not be used or offered for human consumption in a food establishment except for Section XXX of the regulation.

Rationale

Safe food starts with reliable suppliers who meet inspection standards of the jurisdiction's regulatory authority. These suppliers operate in a manner that prevents and controls contamination of food.

3.2.2 Inspection

3.2.2.1 Receiving

Food products received at a food establishment should be visually inspected as they are received, and acceptable items shall be quickly moved into storage.

3.2.2.2 Package Identification

- a) All food products received at a food establishment should be properly packaged and labeled, according to requirements outlined in the *Food and Drugs Act and Regulation* and the *Consumer Packaging and Labeling Act and Regulations*.

- b) In regards to the above it is important to note that shipping containers must be labeled with the common name, net quantity, name and address of the responsible party, and a list of ingredients. Labels of shipping containers such as those for commercial, industrial or institutional use, (i.e., not for sale to consumers), are not required to be bilingual. Additional information that must be declared depends upon the type of food.
- c) Invoices, receipts, and lot coding information should be retained for 90 days, to allow tracking of unlabelled products (such as carcasses, produce or bakery products) or split lots.
- d) Seafood tags should be retained for a minimum of 90 days after use.

Rationale

Lot coding is essential, as it facilitates tracing products in the event of a recall. As well, invoices or receipts should be retained, since lots are often split and original labels removed, and since some food arrives without labels (beef carcasses, produce and bakery products, for example).

3.2.2.3 Disposition

- a) Food products that have been inspected and found unclean, temperature abused, contaminated, damaged or in any way unsafe shall be rejected or segregated and shall not be available for consumption.
- b) This would include (but is not limited to) the following:
- i) packaging or food with signs of pest or rodent infestation;
 - ii) shell eggs that are cracked;
 - iii) badly dented or bulging canned foods;
 - iv) leaking or broken product containers; and
 - v) food containers with torn or removed tamper evident seals.

3.3 Temperature Control

All temperatures quoted are internal product temperatures.

3.3.1 Frozen Foods

Frozen foods must be maintained at a temperature of 0°C (32 °F) or less. To maintain their quality, a temperature of -18°C (0°F) or less is required.

3.3.2 Thawing

- a) Potentially hazardous foods shall be thawed quickly or in a manner that will prevent the rapid growth of pathogenic bacteria.
- b) Food may be thawed:
 - i) under refrigeration at 4°C (40°F) or less;
 - ii) completely submerged in cold running water;
 - iii) as part of the cooking process (but only when thawing is taken into consideration in determining cooking time); and
 - iv) by microwaving.
- c) When thawing foods using methods where the thawed portions of the potentially hazardous foods are above 4°C (40°F), the time period above 4°C (40°F), including the time for cooking preparation or the time required to cool the potentially hazardous foods to below 4°C (40°F), shall not exceed 4 hours.
- d) The only exception to the above procedures and temperature requirement is the thawing of frozen ready-to-eat seafood, which shall be maintained at 3.3°C (38°F) or less during thawing.

Rationale

Freezing prevents microbial growth in foods, but will not destroy all microorganisms. Improper thawing provides an opportunity for surviving bacteria to grow to harmful numbers and/or produce toxins. In seafood, the lower maintenance temperature of 3.3°C (38°F) prevents the growth and toxin production of C. botulinum.

3.3.3 Refrigerated Storage

All potentially hazardous food shall be stored at a temperature of 4°C (40°F) or less. This includes foods that have been prepared and cooled to be served cold. Seafood must be stored at 3.3°C.

3.3.4 Cooking Raw Foods of Animal Origin

- a) Raw foods of animal origin and food mixtures containing raw foods of animal origin shall be cooked to heat all parts of the food to the minimum temperatures and for the minimum times outlined for different foods in Appendix B. Other times and temperatures may be acceptable, if they are considered to be equivalent by the regulatory authority having jurisdiction.
- b) Raw foods of animal origin and food mixtures containing raw foods of animal origin shall be stirred, to ensure that all parts of the food are heated to the minimum temperatures and for the minimum times outlined above.
- c) Where foods are allowed to be served raw or lightly cooked (such as raw oysters, steak tartar, carpaccio, shakes made from raw eggs and so on), the public should be notified of the increased health risk.

Rationale

To kill microorganisms, food must be held at a required temperatures for specified times as outlined in Appendix B. Different species of microorganisms have varying susceptibilities to heat. As well, food characteristics affect the lethality of cooking temperatures. 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. 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. To kill all pathogens in food, cooking must bring all parts of the food up to the required temperatures for the correct length of time.

3.3.5 Hot Holding

Potentially hazardous foods that have been prepared, cooked, and are to be served hot, shall be held at a temperature of at least 60°C (140°F).

3.3.6 Cooling after Cooking

Potentially hazardous foods that have been cooked and are intended to be kept under refrigerated storage prior to serving, are to be cooled from 60 °C (140°F) to 20 °C (70°F) or less within two hours and then from 20 °C (70°F) to 4 °C (40°F) or less within 4 hours as outlined in the parameters of Appendix B.

Rationale

Proper cooling requires removing heat from food quickly enough to prevent microbial growth. Excessive time for cooling of potentially hazardous foods has been consistently identified as one of the leading contributing factors to foodborne illness. During extended cooling, potentially hazardous foods are subject to the growth of a variety of pathogenic microorganisms, which may grow to a sufficient number to cause illness.

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 must 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 temperatures, not cool large masses of food.

3.3.7 Cooling from Room Temperature

When potentially hazardous foods are prepared at room temperature and intended to be kept under refrigerated storage prior to serving, shall be cooled within 4 hours as outlined in the parameters of Appendix B. This includes those foods whose ingredients were canned or made from reconstituted foods.

3.3.8 Room Temperature Holding

- a) Potentially hazardous foods that are intended for immediate consumption, may be displayed or held for service at room temperature (not kept on ice or other equivalent methods) but for no more than 2 hours, after which, they must be discarded.
- b) The foods referred to in subsection (a), above, shall be marked with the time at which they were removed from temperature control.

Rationale

Potentially hazardous food may be held without temperature control for short time periods because there will be no significant growth or toxin production possible in that limited time.

3.3.9 Reheating Potentially Hazardous Foods for Hot Holding

- a) Potentially hazardous foods that have been cooked, then cooled to 4°C (40°F) shall be reheated to 74°C (165°F) or higher in a manner that they will pass through the Danger Zone, 4°C to 60°C (40°F to 140°F) as quickly as possible.
- b) Potentially hazardous foods that have been cooked, cooled to 4°C (40°F), reheated and then recooled to 4°C (40°F), must be reheated to 74°C (165°F) or higher with the total time between 4°C and 74°C (40°F and 165°F) not to exceed 2 hours.

Rationale

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.

3.3.10 Reheating Potentially Hazardous Food for Immediate Service

- a) Potentially hazardous foods that have been cooked, and then cooled to 4°C (40°F) once, can be served, if for immediate service, at any temperature, provided the time the food spends between 4°C and 60°C (40°F and 140°F) does not exceed 2 hours.
- b) Potentially hazardous foods that have been cooked, cooled to 4°C (40°F), reheated and then recooled to 4°C (40°F) must be served, if for immediate service, after being reheated to 74°C (165°F) or higher.

Rationale

Many foods are at risk during preparation and service. As foods are thawed, cooked, held, served, cooled, and reheated, they pass several times through the temperature "danger zone" of between 4°C and 60°C (40°F and 140°F). The amount of time that potentially hazardous foods are in the danger zone will have an impact on the shelf life of the product.

3.3.11 Use of Microwave for Cooking or Reheating

- a) Potentially hazardous foods, cooked or reheated in microwave, shall be rotated or stirred throughout or midway during cooking to compensate for uneven distribution of heat, and heated to a temperature of at least 74⁰C (165⁰F) in all parts of the food.
- b) Allowed to stand covered for a minimum of 2 minutes after cooking to obtain temperature equilibrium.

Rationale

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.

3.3.12 Freezing for Parasite Destruction

- a) Fish that is intended to be consumed raw, including raw-marinated and partially cooked fish, shall either be:
 - i) frozen by the supplier in the manner described below, and obtained from the supplier in a frozen state; or
 - ii) frozen within the food establishment, as described below.
- b) The fish described in a) above should be frozen either:
 - i) to a temperature of -20°C (-4⁰ F) or below for 7 days; or
 - ii) to a temperature of -35°C (-31⁰ F) or below until solid and stored at -35°C (-31⁰ F) for 15 hours.

Rationale

Foods of animal origin may contain food-borne disease micro-organisms including parasites. Because these foods are intended to be eaten in a raw state and not subject to cooking temperatures, they must be treated in a manner that will provide assurance that disease organisms including parasites are effectively destroyed. Subjecting these foods to cold temperatures, as described above, is an acceptable method for parasitic destruction.

3.4 Water**3.4.1 Water in Contact with Food**

Only potable water in either form of liquid, steam or ice shall come in direct or indirect contact with food during food handling, processing, and cleaning. Potable water shall conform to the standards outlined in Health Canada's *Guidelines for Canadian Drinking Water Quality*.

3.4.2 Steam

Non-potable water used for the production of steam shall not come in contact with food or food contact surfaces.

3.4.3 Ice as an Ingredient

Ice added as an ingredient to any food shall be made from potable water. Ice used for cooling exterior surfaces of food containers must not be used as a food or food ingredient.

3.5 Preventing Contamination

3.5.1 Microbial Contamination

- a) Access to food preparation areas shall be restricted, as much as practically possible, to designated food handlers.
- b) Where the public has access to food other than unprocessed fruit and vegetables, or food specifically served to a customer by a worker of the food establishment, the food shall 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.
- c) Food handlers shall avoid contact with exposed areas of ready-to-eat foods with their bare hands and use, as much as practically possible, clean and sanitized utensils such as tongs, spatulas, disposable gloves or other food dispensing apparatus.
- d) Raw or unprocessed food shall be kept separate from ready-to-eat foods.
- e) Raw fruits and vegetables shall 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.
- f) Cleaning and sanitizing of food contact surfaces between uses shall be carried out as described in Section 4 of this *Code*.
- g) Food shall not come into contact with surfaces of utensils and equipment that have not been cleaned and sanitized in accordance with procedures described in Section 4 of this *Code*.
- h) Any utensil used for tasting must be cleaned and sanitized before each use.
- i) Foods that have been previously purchased and returned to the retailer or food service operation may not be re-offered for sale to another consumer, unless those foods are of low risk and are in their unopened original package (i.e., creamers, crackers, condiments).
- j) Prepared ready to eat foods and raw vegetables under refrigerated storage must not be stored below raw meat and fish products.

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 by causing foodborne illnesses. Good policies and procedures for preventing microbial contamination serve as barriers to these disease-causing organisms.

3.5.2 Physical and Chemical Contamination, and Allergens

- a) The operator of a food premise shall ensure that food is stored, displayed, prepared, transported and served in a manner that prevents the food from becoming contaminated.
- b) Non-food items shall be stored in designated areas away from any food, food equipment or food contact surfaces.
- c) Food operators shall be familiar with common food allergens which can be life threatening to some customers. Should consumers have inquiries in regard to the presence of allergens in a food, it is suggested that they be provided with a list of ingredients (e.g., from the recipe; from the master package; from all packages used) and referred to their physician. Appendix C provides information in regard to typical food allergies.
- d) Foods may not contain unapproved food additives or food additives in excess of the amounts listed in *Canada's Food And Drugs Act*.

3.6 Packaging

3.6.1 Protection of Food Content

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

3.6.2 Food Grade Packaging

Packaging materials or atmospheric packaging gases, where used:

- i) shall not cause harm to people exposed to them;
- ii) shall not pose a threat to the safety and suitability of food under the specified conditions of storage and use; and
- iii) shall be approved for use according to the CFIA's *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products*.

3.6.3 Food Containers

- a) The operator of a food establishment must ensure that only food grade containers are used to store food in.
- b) High-acid foods (pH below 4.6) must not be stored or cooked in containers coated with, made of, or containing:
 - i) lead or lead-based products, including lead-glazed ceramics, china, crystal or pewter;
 - ii) zinc, such as galvanized containers;
 - iii) enamelware, which may chip and expose the underlying metal;
 - iv) copper and copper alloys such as brass; and
 - v) cast iron.
- c) Cast iron may be used **only** under the following conditions:
 - i) as a surface for cooking;
 - ii) in utensils for serving food, if the utensils are used only as part of an un-interrupted process from cooking through service.

3.6.4 Reusable Packaging

Reusable packaging shall be durable, clean, and if required, able to withstand sanitizing.

3.6.5 Storage of Packaging Supplies

Packaging supplies shall be stored so as to be free of contact with hazardous materials.

3.6.6 Returnables, Cleaning-for-Refilling

- a) Except as specified in (b), returned empty containers intended for cleaning, sanitizing and refilling with food, shall be cleaned, sanitized and refilled only in an approved food establishment.
- b) Food specific containers for beverages may only be refilled in a food establishment, if:
- i) the beverage is not a potentially hazardous food;
 - ii) the design of the container, the rinsing described in (iii), and the nature of the beverage, when considered together, allow for effective cleaning at home or in the food establishment;
 - iii) facilities for rinsing the containers with un-recirculated hot water under pressure are part of the dispensing system;
 - iv) the consumer-owned container returned to the food establishment for refilling is refilled only for the same consumer;
 - v) re-usable containers are sanitized prior to re-use (review Bottled Water and Packaged Ice Guideline)

Rationale

Separating food from non-food items by creating designated storage areas will ensure that accidental contamination from foreign matter (dirt, broken glass and crockery, and other objects) and toxic chemicals (cleaning agents, sanitizers, detergents, pesticides) will be minimized.

Chemical contamination can occur during cooking or storage when certain metals contact high-acid foods. Potentially toxic metals include lead, copper, brass, zinc coating, antimony, and cadmium. Some foods that have been involved in metal poisoning are sauerkraut, tomatoes, fruit gelatins, lemonade, fruit punches, and carbonated beverages.

Damaged or incorrectly applied packaging may allow the entry of foreign matter or other contaminants into the food. Canned foods shall be closely inspected for imperfections or damage, such as punctures, bulging or seam defects.

3.7 Transportation, Storage and Distribution of Food Products

During all phases of transportation, storage and distribution of food products, foods shall be held at appropriate temperatures and maintained in a sanitary condition.

3.7.1 Verification

Foods shall be routinely monitored during transportation, storage and distribution to ensure that:

- i) foods are protected from all possible forms of contamination;
- ii) foods are protected from all types of damage that may render the food unfit for human consumption;
- iii) a protective environment is provided to effectively control the growth of pathogenic or spoilage microorganisms, such as safe holding temperatures of 4°C (40°F) or below, or 60°C (140°F) or above; and
- iv) all temperature control equipment is suitable and maintained for the purposes intended.

3.7.2 Food Transportation, Storage and Distribution Units

- a) Food transportation, storage and distribution units shall be designed, constructed, maintained and used in a manner that protects food products from being contaminated.
- b) Food transportation, storage or distribution units should be inspected to ensure they are free of possible contaminants, and that they are suitable for the purposes intended.
- c) Food transportation equipment that is intended to be in direct contact with food products must be constructed with non-toxic materials, which are easy to maintain and clean. Examples include stainless steel and food-grade plastic containers. (See Section 4 of this *Code*.)
- d) Where both food and non-food products are transported, stored and distributed together, procedures shall be in place to ensure that food products are not exposed to potential contamination from non-food products.

Rationale

Even if the food establishment does not directly transport or distribute food, stock received by a supplier may have been subject to contamination or temperature abuse while being delivered. The food premise operator should make every reasonable attempt to verify that the food supplies have been protected from contamination and temperature abuse.

Off-site caterers and premises involved in the preparation and distribution of foods from centralized kitchens need to verify the food transportation, storage and distribution units which they utilize, and in particular the temperature control systems of these units.

3.7.3 Handling and Transfer of Foods

- a) Inspection of foods is required to ensure that any signs of contamination, deterioration of foods or their container systems are observed.
- b) Potentially hazardous foods must be monitored to ensure that proper temperatures are maintained during their transportation, storage and distribution. Ideally, temperature-recording devices, which produce a graphic temperature history of the food product and/or storage environment, should be used. Products should be checked on being received and recorded if found to be in variance to required temperatures.
- 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 filling display coolers should be completely familiar with capacity levels and restrictions to loading such units, including volume limits, air flow, temperature range variances, etc., in order to maintain the minimum/maximum temperature needs of the products being placed therein.
- d) When transferring potentially hazardous foods, these foods must be quickly moved into temperature controlled storage, to minimize the time in which they are in the Danger Zone, between 4°C and 60°C (40°F and 140°F).
- e) Contaminated or adulterated foods must be discarded or disposed. Damaged food containers must be thoroughly examined and if the food is contaminated or adulterated, it should be discarded or effectively segregated until returned to the supplier or otherwise disposed of.

Rationale

The careful inspection of transported food will help to minimize the potential of contamination or deterioration of the food product. The 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.

Adequate and properly functioning temperature control systems are essential. The routine use of temperature monitoring devices is necessary to confirm that potentially hazardous foods have been kept out of the "danger zone" for bacterial growth.

3.7.4 Storage Procedures

- a) Rotation of food stocks in storage areas should occur frequently to ensure that the "first-in-first-out" rule is followed. Food products removed from storage should always be the oldest food stocks present.
- b) Refrigerated ready-to-eat potentially hazardous foods, prepared and held for more than 24 hours, shall be marked with the date of preparation or the "consume by" date. In general, refrigerated ready-to-eat potentially hazardous foods shall be discarded if not consumed within 7 days from the date of preparation.
- c) In transportation, storage and distribution units, foods should be stored off the floor and away from walls.

Rationale

Proper rotation of food stocks limits spoilage and potential infestation/contamination by pests. Spills and spoilage can contribute to insect and rodent problems. Defective stock and/or their containers can be identified to the suppliers for appropriate replacement and follow-up.

3.7.5 Temperature Controls

- a) All potentially hazardous foods requiring temperature controlled environments to extend their shelf lives or limit microbial growth should be transported, stored or distributed in equipment that consistently maintains those temperature controls.
- b) Equipment units must have accurate and reliable temperature control and monitoring. All such units and devices should be calibrated and verified for accuracy.
- c) Temperature control units must be maintained at temperatures that are consistent with Section 3.3 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.