

# FOOD SAFETY MANAGEMENT SYSTEM

A food safety management system is a general set of food safety practices and standards for use in food premises. A food safety management system is important to have because it controls and minimizes food contamination.

The Hazard Analysis Critical Control Point (HACCP) system is the most common food safety management system used in food premises. The goal of the HACCP system is to eliminate or reduce cases of food-borne illness and prevent food adulteration.



Before you begin with any food safety management system, you need to make sure basic food safety practices are being followed. First make sure:

- Facility and equipment are clean and sanitary
- Facility is safe, including receiving, storage, and transportation
- Food handlers use safe food handling and packaging methods
- Food handlers practice good personal hygiene

When you know how to do these things, you can implement a HACCP system.

## The 7 Steps of HACCP

### **Step 1: Hazard Analysis**

- Review recipes and assess their risk for time-temperature abuse and cross-contamination at every stage of preparation
- Pay special attention to food with potentially hazardous food ingredients
- Break down recipes into delivery, storage, preparation, cooking, portioning, serving and reheating
- Use a flow chart diagram to show each step, the equipment used, the personnel involved, the location of the process, and other processes in the same area

### **Step 2: Identify Critical Control Points (CCPs)**

- A Critical Control Point (CCP) is any point during food preparation or production where a food safety hazard is identified (i.e. Step 1)
- On the flow chart, record the expected time, temperature, and amount of handling involved in each step according to recipe
- Break down each step and look for the possibility of contamination and growth of micro-organisms. The most high-risk steps should be looked at most carefully

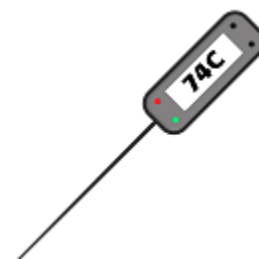
### Step 3: Critical Limits

- For each Critical Control Point (CCP) identified, a Critical Limit needs to be set. Critical limits lessen, prevent, or eliminate a hazard. Critical Limits are typically temperature controls
- Each recipe has a time-temperature CCP
- Example: CCPs and related Critical Limits of chicken parmesan

Critical Control Point	Critical Limit
Raw chicken may contain Salmonella bacteria	Chicken must be cooked to at least 74°C (165°F) to kill Salmonella bacteria
Bacterial growth in Danger Zone 4°C (40°F) and 60°C (140°F)	Cool cooked foods from 60°C (140°F) to 20°C (68°F) within two hours, and from 20°C (68°F) to 4°C (40°F) or less within the next four hours.
Handling raw foods contaminates food handler's hands.	Must wash hands between handling raw foods and ready-to-eat foods

### Step 4: Monitor CCPs

- At each Critical Control Point, ensure Critical Limits are achieved
- Critical Limits must be measurable and recordable
- Those responsible must know how often to monitor
- Keep monitoring records
- Examples of monitoring CCPs includes checking:
  - Temperatures during cooking and in fridges and freezers
  - For signs of allergen cross-contamination
  - For signs of infestation and contamination for received food
  - For government stamps on labels of received meats



### Step 5: Corrective action

- Immediate action must be taken when time and/or temperature measurements show that there is unsafe food practices
- Keep records of any corrective action performed, including responses to any event of food-borne illness and/or product recall
- In the event of a food-borne illness or product recall, it is the operator's duty to inform public health authorities and assist them in their investigation in any way requested
- Corrective action steps must include:
  - Correcting the problem

- Identifying product(s) affected by the problem
- Dealing with the affected products
- Preventing the problem from happening again

### Step 6: Verification

- Double check to ensure HACCP system is working and everyone is doing what they need to be doing
- Modifications to HACCP plan may be required for specific retail operations in order to minimize risk-factors
- Verification done by someone not involved in monitoring

### Step 7: Documentation

- ✓ Two types of HACCP records:
  - 1) Documentation
    - Policies, procedures
  - 2) Records
    - Created when HACCP procedures followed
    - Include temperature logs, corrective action logs
- ✓ Review procedures often and record the proper preparation steps and handling concerns
- ✓ Records should be simple and easy for employees to use. If record keeping isn't made easy, staff may put in numbers without actually measuring



### Allergen Controls

Retail food service premises, for example restaurants and bakeries, are not required by law to list ingredients like you see on pre-packaged foods.

Allergen controls using CCPs include:

- ✓ Making sure food ingredients are clearly communicated to the customer
- ✓ Make sure the ingredients on your menus are accurate
- ✓ Make sure your food isn't contaminated by other foods
- ✓ Have an accurate and up-to-date recipe binder
- ✓ Avoid ingredients known to cause allergic reactions where you can
- ✓ Educate serving and kitchen staff on menu items and on dealing with allergies
- ✓ If you're not sure what's in a product, say so



## PREVENTIVE MAINTENANCE PROGRAM

A well-organized preventive maintenance program is an essential part of a food premises' food safety and quality program. A plan should be in place that ensures all equipment are kept in good working order and operated according to manufacturer's specifications. Well-maintained equipment works properly ensuring a facility runs smoothly, helps ensure the production of safe foods and provides a means to document performance.

A number of food-borne outbreaks in the past have been directly attributed to failure to properly maintain equipment under sanitary conditions. One of the most infamous in Canada was the 2008 *Listeria* outbreak in Ontario and Quebec associated with retail deli meat which caused the death of 20 elderly people. In that outbreak, routine cleaning and sanitizing of machinery used for retail packaging of deli meats was not properly carried out by staff causing the potentially harmful bacteria *Listeria* to rapidly colonize the machinery and cross-contaminate the food being passed through it.

Begin developing a preventive maintenance program by taking inventory of all equipment that may have an impact on food safety. For each piece of equipment, there may be several levels of maintenance (routine, lubrication, parts replacement, etc.). When establishing maintenance schedules, a risk assessment on each piece of equipment should be conducted (i.e. How important is that operation or activity to product quality, safety or legal compliance?). Based on the risk assessment, the operation may decide to perform maintenance activities more or less frequently.

A critical part of any preventive maintenance program includes written procedures that both describe how to do the work and properly document that the work is being done and done properly. In the *Listeria* outbreak above, despite a sanitation plan in place, no one checked the sanitation was actually being carried out. Written preventive maintenance procedures should be developed for different types of equipment work and checks (ex. repairs, parts replacement, spare parts inventory, staff training, lubrication, auditing/quality assurance). Useful resources for developing these procedures include the manuals provided by the equipment manufacturers and the risk assessments they have conducted and their own experiences.

Once written procedures are in place, create a schedule of when these preventative maintenance procedures are to be performed for all equipment on your list. All maintenance work including observed deviations from standards and corrective actions should be documented and kept on file either electronically or as hard copies.

### Example components of a preventative maintenance program:

- List of all equipment that require routine calibration (ex. thermometers, pH meters)
- Written calibration procedures – instructs staff on how to perform calibration
- Calibration records – used by staff to document any deviations and corrective action
- Calibration verification procedures – resource for management to confirm calibration achieved
- Calibration verification records – audit results observed by management

- Preventive maintenance and calibration training procedures – staff training resource
- Preventive maintenance and calibration training records – confirmation of staff trained
- Hand-over procedures - before resuming equipment operation after shift change, new staff perform equipment checks to verify earlier required maintenance was done to ensure equipment quality is maintained at hand-over

Useful resources for creating your own preventive maintenance procedures and records can be found here at this URL:

<https://irp-cdn.multiscreensite.com/005cd0f2/files/uploaded/14.%20%20The%20Preventative%20Control%20Plan%20-%20PCP.pdf>