A Step by Step Guide for Preparing a Preventive Control Plan

Introduction

Preventive control measures are an internationally accepted approach to prevent or mitigate hazards associated with food products. They are based on the Codex Alimentarius Hazard Analysis Critical Control Point (HACCP) process.

A preventive control plan (PCP) is the written document that demonstrates how hazards and risks to food products are eliminated or are being effectively controlled.

Food businesses in the meat and fish sectors already have systems and written documents in place that demonstrate how they eliminate and control hazards. These programs, the ‘Food Safety Enhancement Program’ (FSEP) and the ‘Quality Management Program’ (QMP), are approaches to food safety that are considered comparable to a PCP.

What is a preventive control plan?
A preventive control plan (PCP) is a written plan outlining the measures and actions taken to ensure that food:
- is safe for the consumer
- is fit for human consumption
- conforms to safety and labelling requirements as prescribed by all applicable Canadian food legislation

It’s your choice
You may use other PCP models that have been developed by provincial counterparts, industry associations, international partners, or academia. Always ensure that the information in your PCP is tailored for your particular business, product(s), and market requirements.

A) A step-by-step approach to developing your PCP.

Step 1: Creating your PCP development team

Developing, implementing and maintaining an effective preventive food safety control system depends on knowledgeable and experienced management and employees working together to identify hazards and control measures.

You need to identify key person(s) at all applicable levels for developing the written PCP. The person or team writing the PCP should understand:
• the technology and equipment used in your facility
• the practical aspects of food operations
• the process flow of the establishment
• the applied aspects of food microbiology, chemistry and extraneous material in food
• Hazard Analysis Critical Control Point (HACCP) principles and techniques

Management participation will set a good example, and management awareness and ongoing commitment will promote preventive controls and foster employee cooperation.

Commitment to the PCP may be demonstrated by some of the following actions:
• providing the necessary resources and the time required to effectively develop, implement and maintain the PCP
• verifying the competencies of appropriate staff in their area of responsibility
• providing the financial resources to ensure that the construction and maintenance of the premises, its internal fittings, the installation and maintenance of the equipment, as well as the supplies required to perform the above, meet all applicable regulatory requirements and support the implementation and effectiveness of the PCP
• designating personnel that have competencies, defined responsibilities and the authority to initiate, implement and record corrective actions
• communicating to employees the importance of meeting the requirements of the PCP and reporting problems to the designated person
• allowing designated management personnel to enforce compliance of the procedures identified in the PCP for any person entering or working within the establishment
• allowing the continuous improvement of the PCP to ensure its effectiveness by validating control measures, and by making changes to the system as a result of corrective actions or reassessment activities
• implementing procedures for managing documents
• ensuring all applicable information and documents related to the PCP are accessible to staff at the establishment and the Canadian Food Inspection Agency

Step 2: Written Procedures

Once a PCP development team has been formed, it can develop written procedures to address the elements of the PCP.

Understanding the PCP Elements

Your written PCP must take into consideration the following elements:
1. Process Control
2. Commitment
3. Clean - Sanitation, and Pest Control
4. Equipment and Flow
5. Maintenance
6. Handling
7. Employee Knowledge
8. Employee Hygiene
9. Employee Health
10. Actionable - Complaints and Recalls
11. Other regulatory requirements – Bigger Picture

The structure of your PCP is based on written descriptions of each of these elements, including details about:

- Who – the person carrying out the task
- What – a description of the task
- How – details of how the task is carried out, monitored and verified
  - name any forms used to document the monitoring and verification of the task – including who signs and dates the record.
- When – the frequency of the task, and the frequency of monitoring and verification

Element 1: Process Control

For this element, describe:

- control measures for inputs and packaging materials (including labels)
- formulas and specifications for all foods being prepared. At this point consider possible biological, chemical or physical hazards inherent in your ingredients. Pay particular attention to the identification of allergenic substances such as peanuts as part of your chemical hazard analysis.
- the processes designed to treat food, treat inputs and help mitigate risks inherent to food preparation

Element 2: Commitment

- prepare a statement that describes management commitment to producing safe food that meets regulatory requirements

Element 3: Clean - Sanitation, and Pest Control

For this element, describe:

- how the establishment, conveyances, equipment and facilities are maintained in a clean and sanitary manner – include the list of chemicals used in cleaning, and the cleaning schedule
- how you will ensure pests are managed – for example, if you use a pest control service, provide details about who is carrying out the service, how often and any reports it may provide
- the use of all sanitizers, agronomic inputs and non-food chemical agents – include manufacturers’ instructions
Element 4: Equipment and Flow

- describe all the equipment and conveyances that are used, including how they are suitable, designed and built, and maintained to ensure safe food processing
- describe the flow of employees, ingredients and foods through the facility.

Element 5: Maintenance

- describe how the exterior of the building is maintained, and if it is constructed near potential sources of contamination, the measures being taken to eliminate the risk of contamination
- describe the maintenance of all parts of the interior of the facility, including floors, walls, ceilings, windows, doors, ventilation, lighting, temperature/humidity control, heating/cooling, handling/disposing of waste, sanitary facilities, facilities for inspectors, water/ice/steam, etc

Element 6: Handling

- describe how foods, ingredients, packaging and food animals are received, stored and loaded at the establishment
- describe the controls (e.g., temperature and humidity) of the food and food ingredients as they are received from conveyances (e.g., trailers, tanks, trucks, pallets, fishing vessels, or packages), stored and loaded

Element 7: Employee Knowledge

- describe the competencies and qualifications expected of persons undertaking or supervising the manufacturing, preparing, storing, packaging or labelling of food, or the slaughter of animals
- describe how competencies are maintained. For example, refreshing employee training on a regular basis

Element 8: Employee Hygiene

- describe the protective clothing, footwear and coverings, and related hygienic practices expected to be used and followed that are appropriate for the food and to the activity being conducted
Element 9: Employee Health

- describe policy and procedures respecting illnesses transmitted through food handling and how they will be applied to everyone in the food establishment; include considerations such as the reporting of transmissible illnesses to supervisory staff or the expectations placed on food handling employees who may have suffered cuts or lesions to the hands.

Element 10: Actionable - Complaints and Recalls

For this element, describe:

- how food that is found to present a potential risk of injury to human health (or that might not meet legislative requirements) will be identified, investigated and controlled
- how complaints related to food produced by your company are documented and followed up
- how non-compliant food will be recalled from the marketplace

Element 11: Other Regulatory Requirements – Bigger Picture

In addition to the food safety component of the PCP, you will also have to conduct an evaluation of all food products to ensure that the composition, grade, labelling and net quantity requirements are met.

**It’s important to know**

Well-written and implemented PCP elements ensure an environment conducive for the production of safe food, and lay the groundwork for conducting an effective hazard analysis.

**Step 3: Hazard Analysis**

Now that you have drafted the details of the conditions and procedures specific to your establishment, you have part of the PCP written and you are ready to perform a hazard analysis by applying a five-part process.

Part 1: Identify all potential food safety hazards (biological, chemical and physical), and determine the control measures for each hazard that is associated with inputs, each process step and the finished product. Determine which of these control measures are critical to food safety (i.e. Critical Control Points (CCP)).

Part 2: Establish critical limits for any CCPs (e.g. time and temperature parameters). In addition, incorporate standards/tolerances for the other control measures you’ve identified. Validate your critical limits.
Part 3: Develop procedures for **monitoring** the control measures and set up a template to record monitoring activities. Note that control measures at CCPs have an immediate impact on food safety and would therefore be monitored more frequently than other control measures.

Part 4: Develop procedures for **corrective actions** when monitoring indicates that deviations have occurred and set up a template to record corrective action activities.

Part 5: Develop **verification** procedures to demonstrate that the written PCP is effective and set up a template to record verification activities.

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**It’s Your Choice**

Your hazard analysis resources may include expertise from a trade or professional association, or a consultant of your choice. They can help you analyze all biological, chemical and physical hazards, and consider other regulatory requirements.

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**Step 4: Assemble the documents**

Compile the outcome of your hazard analysis (and associated procedures/documents) and include these documents, together with your description from Step 2 – you have now developed your PCP.

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**B) Implementing your PCP**

Implementing your PCP involves:
- training staff on procedures
- following the PCP as written
- generating and maintaining records
- verifying that the PCP is functioning as designed

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**C) Maintaining your PCP**

Once developed and implemented the PCP must be reviewed at a frequency appropriate to the operation and revised as necessary. PCPs must also be reviewed and revised as necessary following any changes made to the operation (e.g., new equipment, processes, products, etc).

The PCP and the records associated with it must be reviewed by a designated, competent person within the establishment. This person is responsible for assessing the ongoing effectiveness of the PCP in producing food that meets regulatory requirements.

As part of maintaining the PCP, management is involved in the oversight and review of the reassessment process. Reassessing the plan involves:
identifying the team member who will conduct the review and is responsible for updating the PCP

determining the frequency of the review
  - the complete plan should be reviewed annually, at a minimum
  - a portion of the plan is reviewed whenever changes or situations occur that could affect the PCP

The PCP needs to be updated or reassessed when any of the following potential triggers occur:

- new regulatory requirements
- new foods being produced
- a new food line that could potentially cause contamination
- new ingredients or incoming materials coming in contact with the food or being used to prepare the food
- new agronomic inputs or starter products being used in the growing or harvesting of fresh fruit or vegetables
- non-compliant situations identified through monitoring and verification activities
- non-compliance identified through CFIA verifications or third party audits
- complaints from consumers or clients
- food being recalled
- unsatisfactory laboratory results
- loss of control of critical limits indicated by trend analysis
- new process step or new growing or harvesting procedures
- new technology or equipment that may impact the level of a hazard
- new or ongoing construction, or a change in the production flow or employee traffic patterns that could cause contamination
- a new control measure for an identified hazard
- changes in product formulation or preparation
- changes in applying a critical limit
- changes in production volume that may impact on the flow, sanitation schedule, or employee training

The reassessment of your PCP includes a review of the written preventive control plan, a record review and an on-site assessment of all PCP elements. If conducted properly, your reassessment will help determine that the PCP:

- is up to date
- identifies and controls all hazards
- conforms to regulatory requirements
- is implemented as written

You must confirm whether the PCP has achieved the desired outcomes (e.g. the production of safe food). If not, interim measures must be implemented to control any hazards which may have resulted from the deficiency. Once you have fixed the deficiency, the changes made to the PCP must be verified to ensure they are implemented effectively.
Tell me more! – References and further reading

The following references contain information that helps explain food safety controls, demonstrates how to develop them and provides examples.

[webpage] Alberta Agriculture and Rural Development: Food Safety Guidebook
[webpage] Alberta Agriculture and Rural Development: HACCP – Making Food Products Safe
[webpage] Canadian Food Inspection Agency (CFIA) Food Safety Enhancement Program (FSEP)
[webpage] Canadian Food Inspection Agency (CFIA) Quality Management Program (QMP)
[webpage] Codex Alimentarius: General Principles of Food Hygiene CAC/RCP 1-1969
[webpage] Manitoba Agriculture, Food and Rural Development: Basic GMP Program
[webpage] Ontario Ministry of Agriculture, Food and Rural Affairs: Food Inspection Programs
[webpage] CFIA HACCP Generic Models and Commodity-Specific Food Safety Guidance Documents