

APPLICATION OF HACCP PRINCIPLES FOR THE MEAT INDUSTRY

GUIDANCE SHEET NO: 21

MAINTENANCE OF THE HACCP SYSTEM THIRD PART OF PRINCIPLE 6



WHAT HAPPENS IF CHANGES ARE MADE TO THE HACCP SYSTEM?

HACCP is a living system not just a collection of documents and records. Changes to the HACCP system may change the level or type of food safety risks present in the factory. In some cases, a safe product may be changed into a very high-risk product. If these changes to the HACCP system are not understood and no corrective actions are taken consumers may become ill or even die.

A lethal change might be something simple where the risks associated with the change are not obvious. Box 1 shows a case study from a yoghurt factory in the United Kingdom where a very simple change to the formulation turned a safe product into a deadly one and resulted in 27 cases of serious illness and 1 death.

Box1 A simple ingredient change can turn a safe product into a killer

In 1989, a producer of hazelnut yoghurt decided to change from sucrose to aspartame to reduce the calorific value of their product. The factory had a HACCP system in place and had no previous history of food safety incidents linked to their product. Although a change had been made to the recipe the HACCP system was NOT reviewed and the product was placed on the market. 27 people who consumed the new type of hazelnut yoghurt were hospitalised and 1 person died. The consumers of the yoghurt suffered from botulism (botulin poisoning) a serious and often fatal form of food poisoning.

Yoghurt is an acidic food that does NOT support the growth of *Clostridium botulinum*. The original product contained heat treated canned hazelnut puree sweetened with sucrose. The puree contained *C.botulinum* spores but these could not grow because the sucrose in the puree lowered the water activity to a low level. The original product was safe to eat.

Changing from sucrose to aspartame increased the water activity to a high enough level to allow *C.botulinum* to grow in the canned puree and produce botulin toxin. The botulin toxin containing puree was then added to the yoghurt mixture creating a lethal product.

If a review of the HACCP system had been made before releasing the new product to market, the problem of increased water activity would have been identified and the illness and loss of life avoided.

If there are changes to the HACCP-based system, it is essential to review the HACCP system to make sure that food safety procedures remain effective. The review may indicate that aspects of the HACCP plan need to be changed, such as, the scope, the flow diagram, the technical data, and hazard analysis, control measures, decisions on control points, critical / legal limits, monitoring checks, corrective actions and records.

All reviews should be fully documented including any changes to the HACCP system with reasons for making any changes.

TYPES OF HACCP SYSTEM REVIEW

There are two types of review (i) Scheduled reviews (monthly and annual checks) and (ii) Unscheduled reviews when any change is made to the HACCP system.

It is essential to have a designated member of staff responsible for monitoring for changes to the system. The HACCP team must be made aware of changes that would trigger a review so they can consider the potential impact on food safety and the HACCP plan. All staff need to be made aware of any changes that affect them, of revised staff instructions and, if necessary, be retrained to operate revised procedures

SCHEDULED REVIEWS OF THE HACCP SYSTEM

It is advisable to make a four-weekly review of the various features of the HACCP system, checking for persistent problems and any corrective actions taken.

A complete review of the HACCP system should be scheduled once per year. The HACCP system review should be combined with your internal audit as part of implementation of the CAREC Safe Processing Standard and take account of any non-compliances identified by the public health inspector during the annual inspection for compliance with the requirements of the CAREC Safe Processing Standard.

SCHEDULED FOUR WEEKLY REVIEWS OF THE HACCP SYSTEM

The four-weekly review should cover two areas (parts 1 & 2), record your observations in the forms provided as part of the CAREC Safe Processing Standard.

- **Part 1:** Record any persistent problems and corrective actions taken for the following: structure, water-supply, maintenance, cleaning, pest-control, training, personal-hygiene, raw-materials, temperature control, processing of meat (consider each step), traceability, waste-management, packaging, transport-hygiene, laboratory-results & customer complaints.
- **Part 2:** Record any changes to: structures, personnel (have they received appropriate training), Suppliers, raw materials or product specifications, Working methods, equipment or legal requirements. For each change identified provide details of any actions taken.

Do the findings of the review affect the HACCP plan? If the answer to this question is “YES”, you must make necessary amendments to the HACCP plan without delay.

ANNUAL REVIEWS – USE OF CHECKLISTS

There are 7 vitally important questions to answer as part of the annual review of your HACCP system. These are usually put into the form of a checklist so that the responses to the questions can be filed as part of the record keeping system. The questions are as follows:

- 1. Does the scope accurately describe the process?**
- 2. Do the process steps match those in the flow diagram?**
- 3. Are controls valid for each hazard (biological, chemical & physical)?**
- 4. Do the CCP's and CP's remain the same?**
- 5. Are critical limits adequate?**
- 6. Are monitoring procedures still effective?**
- 7. Are appropriate corrective actions identified?**

If the answer to any of the above questions is "NO" there is a risk that management of food safety risks will no longer be effective. You MUST take steps to amend your HACCP plan to ensure that all food safety risks are effectively controlled. The review and amendment process cannot be considered to be complete until the answer to all of the questions above is "YES".

UNSCHEDULED REVIEWS

If certain changes occur within the factory, it will be necessary to trigger an unscheduled review of the HACCP system. Unscheduled reviews are not time dependent but can occur at any time during the year if an important change has been made.

If any of the following occur, the HACCP team must conduct an unscheduled review of the HACCP system to ensure that potential food safety risks are still controlled effectively:

- Any change in raw material or product formulation;
- Change in raw material supplier;
- Changes in processing conditions (factory layout and environment, equipment, cleaning and disinfection programme);
- Changes in packaging, storage or distribution conditions;
- Changes in staffing levels and/or responsibilities;
- Changes in customer/consumer use of the product;
- New information on an existing hazard or information on a new hazard;
- Changes in relevant legislation such as changes to temperature and time requirements for cooking processes resulting from improved understanding of the control of food safety risks.

IMPORTANCE OF DOCUMENTING REVIEWS OF THE HACCP SYSTEM

All reviews of the HACCP system must be documented as part of the record keeping system. Any changes to the system that you decide to make as a result of a HACCP review must be incorporated into the HACCP plan and become part of the daily practice of the factory.

You should pay special attention to any changes to critical control points or introduction of additional safety measures as these will have the greatest influence on effective management of any food safety risks that might arise within the factory.

The HACCP plan must be kept accurate and up-to-date, an outdated HACCP plan increases the chance of ineffective controls resulting in unacceptable food safety risks that could cause serious harm or even death for your customers.

COMMON PROBLEMS WITH REVIEWS OF HACCP SYSTEMS

Regular reviews are essential for maintenance of an effective HACCP system that will reduce food safety risks in your factory to a minimal level. The most common causes of problems with reviews of the HACCP system are:

- Reviews have not taken place, have been delayed or were too limited in scope;
- The food safety procedures that are in place may not be effective if there have been significant changes to the product and production arrangements, and these have not been reflected in the HACCP-based procedures;
- New procedures have not been communicated to everyone who needs to know or who needs to be re-trained.