Hazard Analysis Critical Control Point (HACCP) is a systematic approach to food production as a means of assuring food safety. This process is currently under consideration by the regulatory agencies of the food industry. To date, the HACCP system is not required for any food industry. However, seafood processors will be the first to undertake HACCP as their inspection system. Soon to follow will be the red meat and poultry processors. The food service industry will also begin to use the HACCP inspection system.

The need for HACCP arose from public concerns about safety of the food supply. After the highly publicized deaths of children in the northwestern United States, the media carried many investigative programs alleging that the food supply was unsafe. In 1994, two children died of foodborne illnesses in Alabama: one from E. Coli 0157:H7 and the other from a pathogenic Salmonella spp.

As food service workers, our goal is to serve safe, acceptable, high-quality food products. Certainly, if the product contains any life-threatening contaminant, such as E. Coli 0157:H7, the product will not be of high quality.

History

HACCP is a concept developed more than 35 years ago by the Pillsbury Company. Pillsbury wanted to insure that the food consumed by the astronauts would not cause illness or injury. Foodborne illness or injury could result in an aborted mission or loss of life. Symptoms such as nausea, vomiting, and diarrhea (which are the common symptoms of foodborne illness) would be difficult to deal with in an enclosed spaceship.

Defining The Terms

H stands for Hazard:

Know the potential hazards in your food service facility. A hazard is defined as any biological, chemical, or physical property that may cause an unacceptable consumer risk. From the first step of growing the food product to the end step of consumption, many potential hazards exist. During food preparation, for example, opportunities for contamination exist at every step, from receiving, storing, and preparing to holding and serving. Some of the common and serious hazards in a food service industry facility include:

- Improper hand washing.
- Improper food temperatures.
- Improper cleaning and sanitizing.
- Cross contamination.

A stands for Analysis:

Analyze and examine the flow of food through the system. Begin with purchasing and follow the food through the system until its service to the patron in your facility. Only then can each hazard be placed in its proper perspective.

C stands for Critical:

Ask which processes or procedures are critical to serving a safe food product. For example, how critical is the storage of a dry soda cracker in the prevention of foodborne illness? Not critical at all when compared to the storage of raw ground beef. Therefore, the processes which are important for preventing illness to patrons become the critical ones.

C stands for Control:

Determine how to set controls for these critical hazards to prevent illness to patrons. In the case of raw ground beef, many control points must be set from receiving to serving the finished hamburger to the patron.

P stands for Point:

Establish the point at which critical control begins. A CCP is where control is lost and a health risk can occur. The HACCP system can prevent this loss of control and move the food service industry one step closer to being a risk-free industry.
All processes in a food service facility could be classified as either Critical Control Points (CCP) or Control Points (CP).

HACCP Steps To Food Safety

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

• Assess hazards and risks associated with growing, harvesting, processing, manufacturing, distributing, marketing, preparing, and consuming food.

• Determine CCP required to control the identified hazards.

• Establish the critical limits that must be met at each identified CCP.

• Establish procedures to monitor CCP.

• Establish corrective action to be taken when there is a deviation identified by monitoring a CCP.

• Establish effective record-keeping systems that document the HACCP plan.

• Establish procedures for verification that the HACCP system is working correctly.

Documenting Proper Preparation Of Food

One way to document the proper preparation of food is by establishing and monitoring CCPs. A flow chart is the best way to review the system and establish CP and CCP (Figure 1).

Another way to document the proper preparation of food is with a time and temperature chart. This technique can be employed in the HACCP system by both users and inspectors. A time and temperature chart shows the food product and its journey through the facility until it reaches the consumer. Between 40°F and 140°F is the “danger zone,” the temperature range where microorganisms live and grow. Between 70°F and 120°F is the critical control range of temperatures. No food items should remain at these temperatures for an extended period.

Figure 2 is a time and temperature chart for a hamburger patty, which was taken from the freezer and thawed in the refrigerator. The chart begins with the removal of the thawed hamburger from the refrigerator. The hamburger was cooked to an internal temperature of 155°F. It was placed on a steam table (internal product temperature 140°F) for 2 hours. The only time the hamburger was in the danger zone (40°F to 140°F) was during the short cooking process.

Food service workers can use either of these methods to document the preparation of food items. They can evaluate each recipe to show the entire process of preparing the food item. Evaluating the recipes can help employees become acutely aware of the problems that may occur during preparation.

HACCP Inspection Of A Food Service Facility

HACCP can be used in the inspection of a food service facility. The HACCP inspection has been used in New York State since the mid-1980s. Figures 3 and 4 show the forms used.
Figure 2. Time And Temperature Plot Of A Hamburger Patty Cooked And Held For 2 Hours.

by the New York State Department of Health. Figure 3 shows both the Time/Temperature Chart and the Product Flow Chart used by the inspector. Inspectors use this form in facility inspections, especially when a food is suspected of temperature problems.

Figure 4 is a two-page form. The inspection starts at the receiving and storing areas and proceeds to the service of a product. Reheating a food product also is monitored. Not every product is inspected by such detailed analysis. However certain foods (shellfish, for example) would always be analyzed for their safety.

HACCP shifts the emphasis of the facility inspection. The traditional inspection system focused on cleanliness of equipment, walls, and floors and on operating temperatures in refrigerators or freezers. The HACCP facility inspection focuses on the processes of preparing and providing safe food. With the traditional inspection system, a food could be placed in the refrigerator and not allowed to cool properly, thus allowing the food to be in the danger zone longer than the recommended time. With the time and temperature charting of a food product, the food’s temperature is documented, and the employees can see how quickly a food can reach the danger zone.

Record Keeping
Keeping accurate records will be a critical part of the HACCP system. Records of time and temperature studies should become second nature to all food service personnel. Other record-keeping forms are available to assist in making HACCP an easy system to use.

Conclusion
Remember some major points when starting a HACCP system:
- All employees, including management, must be trained to understand the overall working of the program.
- A procedure must be worked out for every process performed. This could be translated to every recipe prepared in the kitchen.
- The end result—a food service providing the safest food possible—takes management, time, and commitment.
Figure 3. HACCP Inspection Form: Time And Temperature Product Flow Chart.
Figure 4. HACCP Inspection Form: Receiving Of Food To Service Of Food.
References:


