



HACCP: Managing Food Safety Hazards at the Retail Level

Introduction

"Foodborne illness in the United States is a major cause of personal distress, preventable death, and avoidable economic burden. Mead et al. (1999) estimated that foodborne diseases cause 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths in the United States each year... The annual cost of foodborne illness in terms of pain and suffering, reduced productivity, and medical costs is estimated to be \$10-83 billion."

2001 Food Code
Public Health Service - Food & Drug Administration
U.S. Department of Health and Human Services

The statistics on foodborne illness speak for themselves. Regulatory officials and the retail and food service industries they regulate must partner with each other if we are to prevent or reduce foodborne illness.

While every player in the flow of food from farm to fork has some degree of responsibility for food safety, the food safety manager is usually the last line of defense before food reaches the consumer. Because of this, you have a significant share of the responsibility for ensuring safe food. By developing a food safety management system, you can better ensure that the foods served or sold in your establishment are safe.

Active Managerial Control

Active managerial control means the purposeful incorporation of specific actions or procedures by industry management into the operation of your business to attain control over foodborne illness risk factors. It embodies a preventive rather than reactive approach to food safety. Having active managerial control includes having procedures in place to prevent, eliminate, or reduce identified foodborne illness risk factors through a continuous system of monitoring and verification.

Foodborne illness risk factors include:

- Food from unsafe sources
- Inadequate cooking
- Improper holding temperatures
- Contaminated equipment
- Poor personal hygiene

There are many tools that can be used by industry to provide active managerial control of foodborne illness risk factors. Regulatory inspections and follow-up activities must also be proactive by using an inspection process designed to assess the degree of active managerial control that retail and food service operators have over the foodborne illness risk factors. In addition, regulators must assist operators in developing and implementing voluntary strategies to strengthen existing industry systems to prevent the occurrence of foodborne illness risk factors. Elements of an effective food safety management system may include the following:

- Certified food protection managers who have shown a proficiency of required information by passing a test that is part of an accredited program



- Standard operating procedures (SOPs) for performing critical operational steps in a food preparation process such as cooling
- Recipe cards that contain the specific steps for preparing a food item and the food safety critical limits such as final cooking temperatures that need to be monitored and verified
- Purchase specifications
- Equipment and facility design and maintenance
- Monitoring procedures
- Record keeping
- Employee health policy for restricting or excluding ill employees
- Manager and employee training
- On-going quality control and assurance
- Specific goal-oriented plans, like Risk Control Plans (RCPs), that outline procedures for controlling specific foodborne illness risk factors

Hazard Analysis and Critical Control Point (HACCP)

Hazard Analysis and Critical Control Point (HACCP) is a systematic approach to identifying, evaluating, and controlling food safety hazards. Food safety hazards are biological, chemical, or physical agents that are reasonably likely to cause illness or injury in the absence of their control. Because a HACCP program is designed to ensure that hazards are prevented, eliminated, or reduced to an acceptable level before a food reaches the consumer, it embodies the preventive nature of active managerial control.

Active managerial control through the use of HACCP principles is achieved by identifying the food safety hazards attributed to products, determining the necessary steps that will control the identified hazards, and implementing on-going practices or procedures that will ensure safe food. Like many other quality assurance programs, HACCP provides a common-sense approach to identifying and controlling problems that are likely to exist in an operation. Consequently, many food safety management systems at the retail level already incorporate some, if not all, of the principles of HACCP. Combined with good basic sanitation, a solid employee training program, and other prerequisite programs, a food safety management system based on HACCP principles will prevent, eliminate, or reduce the occurrence of foodborne illness risk factors that lead to out-of-control hazards.

HACCP represents an important tool in food protection that small independent businesses as well as national companies can use to achieve active managerial control of risk factors. The *Food Code* requires a comprehensive HACCP plan when conducting certain specialized processes at retail such as when a variance is granted or when a reduced oxygen packaging method is used. However, in general, the implementation of HACCP at the retail level is voluntary. FDA endorses the voluntary implementation of food safety management systems based on HACCP principles as an effective means for controlling the occurrence of foodborne illness risk factors that result in out-of-control hazards.

While the operator is responsible for developing and implementing a system of controls to prevent foodborne illness risk factors, the role of the regulator is to assess whether the system the operator has in place is achieving control of foodborne illness risk factors. Using HACCP principles during inspections will enhance the effectiveness of routine inspections by incorporating a risk-based approach. This helps inspectors focus their inspection on evaluating the effectiveness of food safety management systems implemented by industry to control foodborne illness risk factors.

Instilling food worker and management commitment and dealing with problems like high employee turnover and communication barriers should be considered when designing a food safety management system based on HACCP principles.



Properly implemented, a food safety management system based on HACCP principles may offer you the following other advantages:

- Reduction in product loss
- Increase in product quality
- Better control of product inventory
- Consistency in product preparation
- Increase in profit
- Increase in employee awareness and participation in food safety

Variants

The *Food Code* clearly establishes that the implementation of HACCP at retail should be a voluntary effort by industry. If, however, you plan on conducting certain specialized processes that carry considerably high risk, you should consult your regulatory authority to see if you are required to have a HACCP plan. Examples of specialized processes covered in Chapter 3 of the *Food Code* include formulating a food so that it is not potentially hazardous or using performance standards to control food safety.

Federal performance standards define public food safety expectations for a product usually in terms of the number of disease-causing microorganisms that need to be destroyed through a process. For example, instead of cooking chicken to 165°F for 15 seconds as dictated in the *Food Code*, performance standards allow you to use a different combination of time and temperature as long as the same level of public safety is achieved. Use of performance standards allows you to use innovative approaches in producing safe products.

When using performance standards or when conducting other specialized processes, the FDA *Food Code* requires an establishment to obtain a variance, or exemption from the requirements of the Code, and to implement a more comprehensive HACCP plan than is outlined in this book. The regulatory authority must not only approve this HACCP plan, but records generated in support of the plan must be made available for review when requested.

Jurisdictions that have not adopted the *Food Code*, but otherwise allow the use of performance standards or other specialized processing methods, may also require you to obtain a variance. In such cases, the regulatory authority may also require that you develop a more comprehensive HACCP plan than is outlined here. In some jurisdictions around the country, the implementation of HACCP programs is a requirement regardless of the processing methods used. You should consult your regulatory authority if you are unsure of your requirements, if you plan on deviating from the requirements, or if you plan on conducting specialized processes.

The HACCP Approach

This course provides you with the necessary steps for writing and voluntarily implementing a food safety management system based on hazard analysis and critical control point (HACCP) principles. By voluntarily developing and implementing a food safety management system like the one suggested, you can take a proactive role in ensuring that the food served or sold in your establishment is safe. Rather than responding to a foodborne illness when it occurs, you can prevent it by taking active steps to eliminate, prevent, or reduce to an acceptable level food safety hazards that cause someone to be sick or injured.

If you already have an existing food safety management system, you may use the concepts in this course to upgrade the system you have in place. Whether you are developing a new food safety management system or merely upgrading the one you currently have, this book



encourages operators and regulators of retail and food service to partner together to make the greatest impact on food safety.

It is also important to recognize that HACCP has no single correct application. Variations in the procedures presented here are appropriate as long as they are based on sound public health judgment. In addition to the material presented in this text, several references have been provided in to assist you in developing a food safety management system specific to your operation.

The procedures and information presented in this course were prepared with feedback received from regional FDA food safety seminars and Food Safety Initiative grassroots meetings. In addition, the Conference for Food Protection (CFP) has reviewed and endorsed this guidance and has provided FDA with comments and suggestions on two separate occasions (in December 2001 and again in November 2002). Comments received from these reviews were incorporated into this document by the FDA.

Summary

FDA endorses the voluntary implementation of food safety management systems in retail and food service establishments. Combined with good basic sanitation, a solid employee training program, and other prerequisite programs, HACCP can provide you and your employees a complete food safety management system.

The goal in applying HACCP principles in retail and food service is to have you, the operator, take purposeful actions to ensure safe food. You and your regulatory authority have a common objective in mind - providing safe, quality food to consumers. Your health inspector can help you achieve this common objective, but remember that the ultimate responsibility for food safety at the retail level lies with you and your ability to develop and maintain an effective food safety management system.

Managing food safety should be as fully integrated into your operation as those actions that you might take to open in the morning, ensure a profit, or manage cash flow. By putting in place an active, ongoing system, made up of actions intended to create the desired outcome, you can achieve your goal of improving food safety. The application of the HACCP principles provides one system that can help you accomplish that goal.

This course will provide details on how to organize your products so that you can voluntarily develop your own food safety management system using HACCP principles. The HACCP plans that you will develop using this material, in combination with prerequisite programs (discussed next) will constitute a complete food safety management system. Partnering with your regulatory authority or other food safety professional is recommended, but the design, implementation, and success of your system rests with you.