FACT SHEET 5.3

FOOD SAFETY

HAZARD ANALYSIS CRITICAL CONTROL POINT

Hazard Analysis Critical Control Point (HACCP) is a food safety management system that addresses biological, chemical, and physical hazards from raw material production, procurements, and handling, to manufacturing, distribution, and consumption of the finished product. HACCP is a logical, simple, effective, and systematic approach to food safety recognized globally and widely adopted throughout industry. It is designed for all levels of the food system and is comprised of preliminary steps and seven principles, outlined below.

The Idaho State Department of Agriculture and your local Health District can help you determine whether HACCP or Preventative Controls for Human Foods is better for you and your operation. (*See Fact Sheet 5.4 Preventative Controls for Human Food for more information*). Make sure to contact those agencies for specific requirements before diving into your food safety plan.

Creating Your HACCP Plan

Your food safety plan is a very important step towards ensuring you are creating safe food products. Your plan needs to reflect your facility, equipment, practices, and procedures. It is not something that is a one-and-done—your food safety plan needs to be a living document and is continuously improved. Beware of websites and businesses that will write your HACCP plan for you. Your HACCP plan needs to be applicable to your process, your equipment, and your programs to prevent food safety incidents from happening. A generic HACCP plan can be used to get you started but you still need to make sure it is applicable to your facility and product.

Prerequisite Programs

Prerequisite programs include Good Manufacturing Practices, Sanitation Programs, Chemical Control, Allergen Control, Water and Air Quality Programs, Supply Chain or Approved Supplier Programs, Maintenance Programs, Training, Storage and Shipping, Traceability and Recall, Pest Control, and others. These programs can help you build a solid foundation of food safety processes and requirements to build upon in your HACCP food safety plan. More information on these programs can be found on FDA's website: https://www.fda.gov/food/hazard-analysis-critical-control-point-haccp/haccp-principles-application-guidelines.

HACCP Preliminary Steps

There are important steps to take to inform your HACCP Food Safety Plan and ensure it is safe, effective, and thorough. Those steps are: assembling a HACCP team, describing the product and product distribution, describing the intended use and consumers of the product, developing a flow diagram that describes the process, and verifying that flow diagram.

Assemble the HACCP Team

For any food safety plan to be adopted, the whole operation must understand the importance of food safety and work together to implement and uphold the food safety plan. Develop a core food safety team to help in this goal. If you have a large staff, try to fill this team with representatives from across all skill sets, management levels, and portions of your operation.

Do not be afraid to change members of the team as needed and to invite subject matter experts.

Describe the Product & Product Distribution

In this step, the HACCP team needs to decide how many food safety plans your facility needs. All

products must be made with a food safety plan; however, each product does not need its own food safety plan. If products have similar processes and similar hazards, they can be combined under one food safety plan. The product description contains the product's common name, processing description, food safety characteristics, types of packaging, any labeling requirements, length of shelf life, and storage and distribution conditions.

Describe the Intended Use & Consumers of the Product

Frequently, the intended use and consumers of the food is included in the product description. Describe the normal expected use of the food and who are the intended users of the product. Intended users could include retail, food service, or further manufacturing at your facility or other facilities. Be aware of specialized groups who are especially susceptible to foodborne that illness will consume your product. Those groups include infants and kids, pregnant women, immunocompromised individuals, and the elderly. Determine how your consumers will use and misuse the product, if the product is RTE (ready to eat), requires further cooking, needs stored at refrigerated/frozen temperature, etc.

Develop a Flow Diagram which Describes the Process

Create a flow diagram that provides a clear, simple outline of the steps involved in manufacturing the food product. This diagram needs to encompass everything from receiving to when it changes ownership and illustrate all product inputs and outputs. Every piece of equipment and ingredient or processing aid needs to be included in the flow diagram.

Verify the Flow Diagram

After you have completed the flow diagram, the food safety team needs to walk through the process and review for accuracy and completeness.

HACCP Plan Seven Key Principles

Once you have completed the above steps, you should have a thorough understanding of your product and the production process of it. That prepares you to launch into HACCP's seven key principles: hazard analysis, CCP identification, establishing critical limits, monitoring procedures, corrective actions, verification procedures, and record-keeping and documentation.

Conduct a Hazard Analysis

The hazard analysis is a two-part process, the first identifies the food safety hazards and the second requires evaluation of likelihood and severity of the hazards identified. The hazards are classified into one of three categories: microbiological, chemical, or physical.

Hazard Classifications

Microbiological hazards *include harmful bacteria, viruses, or parasites such as listeria, salmonella, or E. coli.*

Chemical hazards *could include materials that can cause illness or injury due to immediate and long-term exposure such as allergens, heavy metals, pesticide and herbicide residues, food additives, building and equipment maintenance fluids, etc.*

Physical hazards *include any potentially harmful extraneous matter, causing injury or choking to the consumer. Materials like metal, wood, stones, plastic, bones, rubber, and glass fragments are included.*

Once you have analyzed the ingredients and process for potential hazards the food safety team now needs to determine the likelihood and severity of that hazard occurring.

Determine the Critical Control Points

Once the food safety team has determined the hazards, their potential severity, and likelihood, the food safety team needs to determine the appropriate control mechanisms to reduce or eliminate the hazards. What policies, procedures, and programs do you have in place to eliminate or reduce the hazard to an acceptable level? These prevention methods should be implemented at a critical control point, or CCP. CCPs are a step at which control can be applied and are essential to prevent or eliminate a food safety hazard or reduce to an acceptable level. At this step the food safety team needs to look at the hazard and determine if the prerequisite programs control the hazard or not. If not, then the step is a critical control point. Common critical control points include cooking or pasteurization, acidifying, dryers that reduce the water activity, labeling, organic acid sprays, metal detection/X-ray, etc.

Establish Critical Limits

The critical limit is the maximum or minimum value to which the hazard must be controlled to reduce the hazard to an acceptable level. Critical limits can be one or a combination of factors including temperature, pressure, time, physical dimensions, water activity, pH, aroma and visual appearance.

Establish Monitoring Procedures

Monitoring includes observation and measurements to assure your food safety plan is functioning properly. Monitoring helps you track the process and indicate when changes need to be made in order to keep the process in control, determine when control was lost, and which product is impacted, and provide written documentation to verify the food safety plan and programs.

Establish Corrective Action

When issues arise, the food safety plan must detail how to handle the violations and deviations. The corrective action plans must consist of two components: how to get the process back into control and how to handle the impacted product.

Establish Verification Procedures

In addition to monitoring, the food safety plan needs to be verified to ensure that the system is operating according to the program requirements. Verification activities could include a supervisor reviewing paperwork at the end of the shift, a quality assurance person reviewing the documentation before releasing product for distribution, calibration of instrumentation, microbiological testing of ingredients and finished products, or more.

Establish Record-Keeping & Documentation Procedures

The last principle involves all the documentation and records that have been kept in the process of making the product and ensuring the food safety plan is functioning. If it is not documented, it did not happen. All records need to be signed and dated with accurate references. Good documentation practices and document control are required for all documents associated with your product production and your food safety plan. Remember, your food safety plan, and all documentation associated with your safety plan, are legal documents.