



Teton County Environmental Health
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HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP)
Application and Check list

Establishment name:

Contact #:

License#:

Person in Charge of HACCP:

e-mail:

Type of ROP: examples: Sous vide, cook chill etc.

Please ensure that your HACCP plan contains all of the following information prior to submittal. If the section does not apply to your processes please write N/A. If you would like to receive feed back and communication about your plan by e-mail, please e-mail a copy of your plan to: emily.freeland@wyo.gov.

- An accurate, step by step description of how the food is obtained, prepared, held finished etc. (flow diagram) for each product or group of products.
- A complete hazard analysis of the preparation, packaging, and storage procedures. This includes chemical, physical and biological hazards, preventative measures and identification of CCP's
- Critical control points, with attendant critical limits, corrective action plans, monitoring, verification schemes and records required
- A list of equipment and food-contact packaging supplies used
- A list of all ingredients
- Variance if the processes deviate from the 2012 Wyoming Food Code
- Laboratory verification if the products secondary barrier is pH or Water Activity
- Standard operating procedures (SOP)
- Records/logs that will be maintained by the PIC to demonstrate that the HACCP plan is being properly implemented.
- Copies of all labels used to designate products
- A listing and proportion of food-grade gases, if used

Any person engaged in reduced oxygen packaging shall be trained in the safe application of the attached HACCP program. I do hereby agree to make all data and records pertaining to the reduced oxygen packaging operation available to the regulatory authority upon request. I understand that the HACCP plan will be reviewed and a fee between \$150 and \$250 will be charged based on plan complexity. Corrections may need to be made prior to approval.

Person in charge signature /title

Date

Received by:
Date reviewed:
Date final approval granted:

Date:
Approved or disapproved

REDUCED OXYGEN PACKAGING HACCP PLAN REQUIREMENTS AND GUIDELINES FOR DEVELOPING A PLAN

The Hazard Analysis Critical Control Point (HACCP) plan required by Teton County Environmental Health (TCEH) for reduced oxygen packaging (ROP) is a prevention-based food safety system. It identifies and tracks the processes food products undergo as they pass from the supplier to the table. HACCP treats receiving, storage, preparation, cooking, cooling, holding and service of food as a continuous system or flow. It is designed to assist in identifying and monitoring Critical Control Points (CCPs) in the process flow. Each step in the process flow is broken down into logical components and is evaluated by principles of risk. Hazard as used in this document is limited to food safety.

Reduced oxygen packaging (ROP) results in a reduced oxygen level in the sealed food package. The air we breathe has approximately 21% oxygen hence any packaging option that results in less than 21% oxygen is classified as ROP. However, by reducing the oxygen normally found in the package, and the consequent reduction in normal food spoilage bacteria, an environment could be created conducive to the growth of more dangerous pathogenic food microorganisms such as *Clostridium botulinum* and *Listeria monocytogenes*. ROP options include processes such as Cook-chill, Controlled Atmosphere (CA) and Modified Atmosphere Packaging (MAP), Sous Vide processing and Vacuum-Packaging. ROP offers unique advantages and opportunities such as extended shelf-life and improved quality retention to the food industry, but also raises many microbiological concerns. Ensuring the safest possible food product to the consumer is the ultimate responsibility of each food service establishment

HACCP is a management system that helps to assure food safety through the analysis and control of possible biological, chemical, and physical hazards that may contaminate food. It is based on the premise that if each step of the process is carried out correctly, the end product will be safe food. A CCP is a point, step, or procedure in a food process at which control can be applied and, as a result, a food safety hazard can be prevented, eliminated, or reduced to acceptable levels. For the successful implementation of any HACCP plan, management of a food operation must be strongly committed to the HACCP concept.

The implementation of a HACCP plan is most effective when a team approach is used to design and implement a comprehensive plan based on the HACCP principles. A complete team may include, but not be limited to, the owner, managers, chefs, cooks, dishwashers, wait staff, and other staff who are actively involved in any aspect of food preparation within a food service establishment (FSE), from receipt of food products at the "back door" to serving of food in the "front of the house."

Whenever a HACCP plan is required by TCEH it must be approved by TCEH, determined to be scientifically and technically sound, to identify all hazards and, if properly implemented, will effectively control such hazards. Prior to approval, TCEH may require additional information that will enable it to determine that food safety is not compromised by any step in the HACCP proposal.

All FSEs using ROP must develop a HACCP plan and maintain the plan at the food establishment for review by TCEH inspectors. HACCP plans for ROP must include:

- An accurate, step by step description of how the food is obtained, prepared, held finished etc. (flow diagram) for each product or group of products.
- A complete hazard analysis of the preparation, packaging, and storage procedures. This includes chemical, physical and biological hazards, preventative measures and identification of CCP's
- Critical control points, with attendant critical limits, corrective action plans, monitoring, verification schemes and records required
- A list of equipment and food-contact packaging supplies used
- A list of all ingredients
- Variance if the processes deviate from the 2012 Wyoming Food Code
- Laboratory verification if the products secondary barrier is pH or Water Activity
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STANDARD OPERATING PROCEDURE (SOP)

This is a **detailed set of instructions**, steps or procedures that control the operational conditions within an FSE allowing for environmental conditions favorable to the preparation of safe food. SOPs can help control bacterial hazards by specifying procedures to:

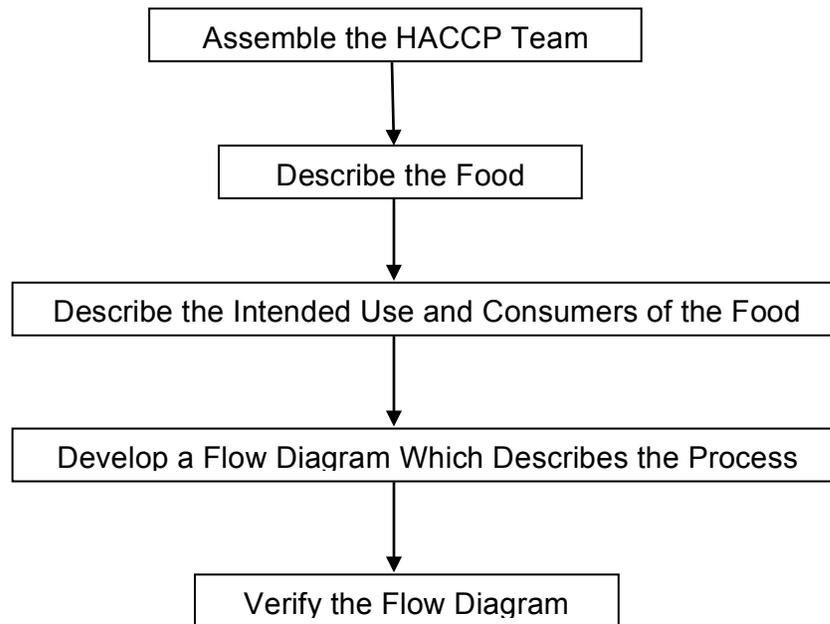
- Avoid product cross-contamination by proper product flow and limiting food worker's tasks and movement
- Establish detailed procedures that trained employees can refer to
- Ensure appropriate equipment maintenance and cleaning/sanitizing procedures
- Ensure proper calibration of equipment including thermometers

When SOPs are in place, a HACCP plan can be more effective because it can concentrate on the hazards associated with the food or preparation and not on the food environment or maintenance of facilities. Programs that are valuable in supporting the HACCP system address:

- Personal hygiene
- Maintenance plans
- Pest control
- Equipment and operation design
- Food worker training
- Product identification

Sanitation SOPs cover daily pre-operational sanitation procedures that the FSE must implement to prevent direct product contamination or adulteration. It is a prerequisite to HACCP.

In the development of a HACCP plan, five preliminary tasks need to be accomplished before the application of the HACCP principles to a specific product and process. These are:



PRINCIPLE 1: CONDUCT A HAZARD ANALYSIS AND IDENTIFY THE HAZARDS

The first principle of HACCP is to conduct a hazard analysis, describing operational steps (receiving, storage, preparation, cooking, holding, and service) and determining what food safety hazards are likely to occur at each step and whether applicable preventive measures are available. These determinations should be done with the aid of a flow diagram and be based on incidence evaluation and/or scientific data on hazards.

A. DEVELOP A FLOW CHART/DIAGRAM.

A flow diagram provides a clear simple outline of the steps involved in the process from receipt of raw materials to service of prepared foods. Since the flow chart is the basis for the hazard analysis, it must be correct and complete. Any hazard that is not identified and therefore not controlled may lead to an unsafe product.

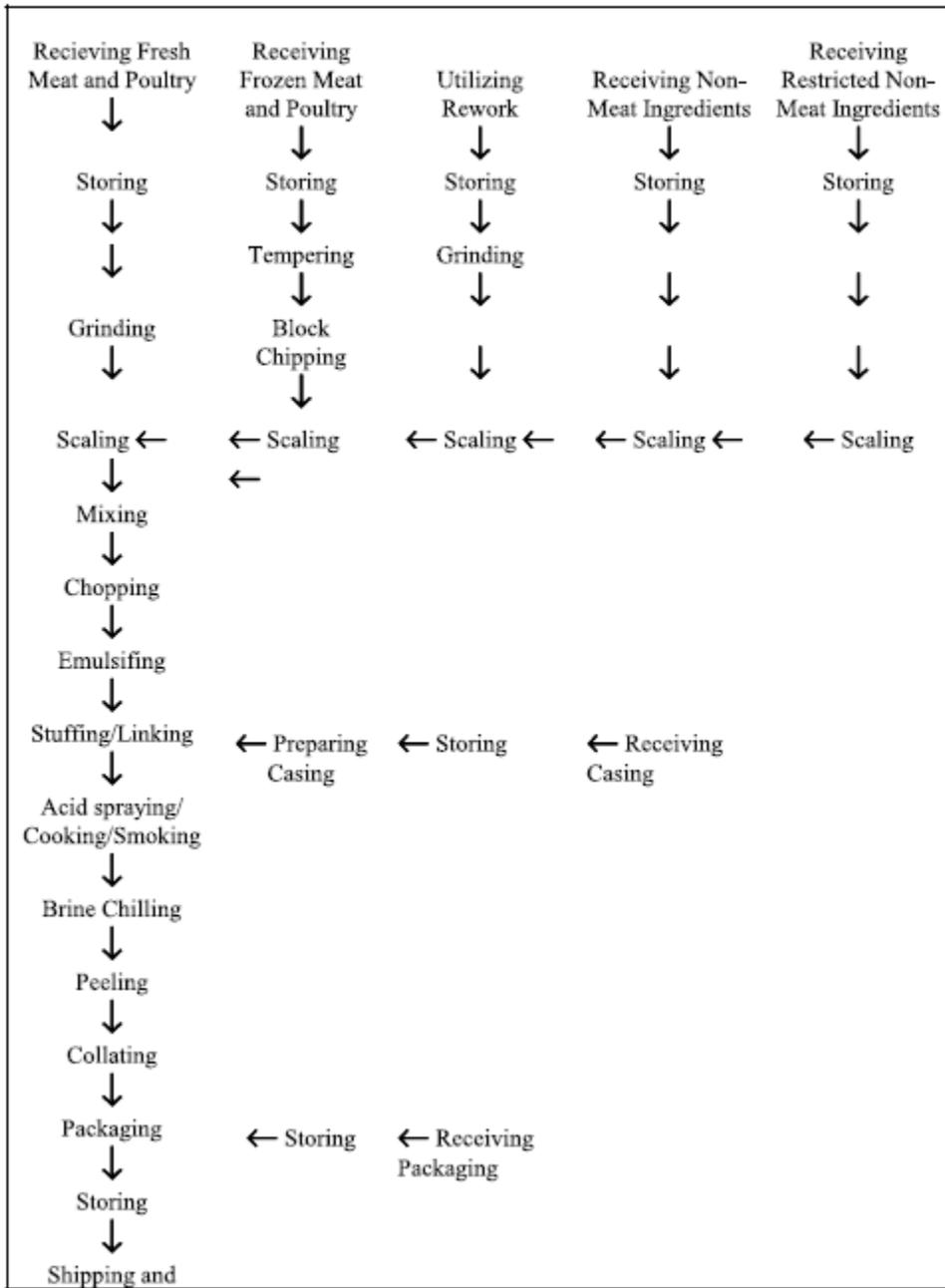
A typical process flow diagram for meat preparation with CCPs is shown in Figure 1. The flow chart, which can be product or process specific, covers all the steps in the process, and forms the foundation for applying the seven principles of HACCP.

B. IDENTIFY POTENTIAL HAZARDS.

Once the flow chart is drawn, each step in the process must be carefully examined and all potential hazards that may occur must be identified. Hazard analysis involves hazard identification and evaluation by the HACCP team. After the list of potential hazards is assembled, the HACCP team must decide which potential hazards must be addressed in the HACCP plan. During this stage, each potential hazard is evaluated based on the severity of the hazard and its likely occurrence. Severity means the risk to the consumer. Hazards associated with each step in the flow diagram are then listed in the hazard analysis table along with preventive measures proposed to control the hazards.

Figure 1. Flow Diagram for Meat Preparation.

Frankfurter Production Flow Chart



Each step in the flow diagram is then analyzed to determine hazards that could occur at that step. A food safety hazard is any unacceptable contamination by a biological, chemical, or physical agent that is reasonably likely to cause illness or injury in the absence of its control. A preventive measure is the means by which the FSE is able to control the hazard. To properly identify biological, chemical, or physical hazards likely to occur, one needs to know about the chemical, physical, and microbiological characteristics of the ingredients, as well as how various processes affect those characteristics. Each step in the process flow diagram is evaluated to determine whether a biological, chemical and/or physical hazard may be introduced at that step and whether applicable preventive measures are available.

Biological Hazards

Biological hazards are living organisms, including micro-organisms, which can put human health at risk. Biological hazards include bacteria, parasites, protozoa, viruses, and the like. Agricultural products and food animals carry a wide range of bacteria. From a public health standpoint, most bacteria are harmless. However, food-borne pathogenic microorganisms (harmful bacteria) can cause illness, disease or even death in humans. Pathogenic bacteria cause a large proportion (approximately 90%) of all food-borne illnesses. During transportation, receiving, storage, preparation, packaging, and service, any food may be exposed to pathogenic biological contamination. Pathogens can survive when you do not cook food properly to the recommended internal temperatures, multiply if you do not store food at the correct temperature and spread from raw food to cooked/ready to eat foods.

Chemical Hazards

Chemical hazards involve chemicals or deleterious substances contaminating food due to improper storage of food or chemicals, misuse of cleaning or pesticide products, or naturally occurring sources. Chemical hazards fall into two categories:

- Naturally occurring poisons, chemicals or deleterious substances that are natural constituents of foods and are not the result of environmental, agricultural, industrial, or other contamination. Examples include aflatoxins, hypoglycins, and shellfish toxins.
- Added poisonous chemicals or deleterious substances that are intentionally or unintentionally added to foods at some point in growing, harvesting, storage, processing, packing, or distribution. This includes pesticides, fungicides, insecticides, fertilizers, drug residues, and antibiotics, as well as food additives such as nitrates.

This group can also include chemicals such as lubricants, cleaners, paints, and coatings.

Physical Hazards

Physical hazards are any physical material not normally found in a food that causes illness or injury to the individual consuming the food. Physical hazards include a variety of foreign materials or objects, such as glass, metal, and plastic. However, foreign objects that cannot or do not cause illness or injury are not hazards, even though they may not be aesthetically pleasing to your customers. A number of situations can result in physical hazards in finished food products. They include, but are not limited to poorly designed or poorly maintained facilities and equipment. Physical hazards may be caused by improper procedures or improper food worker training and practices. Examples are broken glass, plastic, wood, metal, hair, jewelry, pests and/or their droppings.

PRINCIPLE 2. DETERMINE THE CRITICAL CONTROL POINTS

The information developed during the hazard analysis is used by the HACCP team to identify which steps in the process are critical control points (CCPs). A CCP is a step at which a control can be applied to prevent or eliminate a biological, chemical or physical hazard or reduce it to an acceptable level. A complete and accurate identification of CCPs is necessary to control food safety hazards. For example, cooking that must occur at a specific temperature and for a specified time in order to destroy microbiological pathogens are a CCP. Cooking, cooling and storage are a few examples of CCPs, and each requires a control to reduce the risk to the consumer. CCP decision trees can be helpful to designate CCP's at this step(see attached)

PRINCIPLE 3. ESTABLISH THE CRITICAL LIMITS

A critical limit is defined as a criterion that must be met for each preventive measure associated with a CCP. A critical limit may be a temperature limit at which potentially hazardous food must be cooked, reheated, or held hot. A critical limit could also be a food hygienic practice that prevents the spread of harmful bacteria from raw food to ready-to-eat food such as the use of different colored knives and boards. Critical limits are boundaries and measurements that define safety for CCPs and can be found in the Wyoming Food Safety Rule. An example on Chapter 3 Section 41 sets a critical limit of 155°F (68.3°C) for 15 seconds as the minimum internal temperature required for cooking fish and meat products. Similarly chicken and chicken products are considered safe when the internal temperature reaches 165°F (73.9°C). When critical limits are not met, it could mean that the food is not safe to eat.

The following is a list of some of the commonly used critical limits for ROP:

Table 1. ROP Processes and Critical Limits

PROCESS	CRITICAL LIMIT
Receiving	Food that arrives in the FSE that is not at the required temperature should not be accepted. Food must come from identifiable and approved source and be received at an appropriate temperature.
Cold Holding	Potentially hazardous raw food must be kept at or below 41°F prior to placing in a ROP bag. Raw meat or poultry placed in ROP may be kept at 41° F (3.3° C) or below and must be discarded after 14 days.
Cooking	Cook all ROP foods until the internal temperature reaches the required cooking temperatures set in the Wyoming Food Safety Rule. For example, poultry is cooked to 165° F (73.9°C).
Cooling	Cool ROP foods from 135°F to 70 °F within 2 hours and from 70°F to 41°F in less than six hours. Cook- chill products must be bagged prior to chilling (temperature over 135° F). Subsequent holding times are dependent on continued cooling to 38°F or 34°F.
Cold Holding After Cook-Chill or Sous vide ROP	Cooked ROP foods held at 38° F (3.3° C) or below are to be consumed within 72 hours or discarded. Cooked ROP foods held at 34° F (1.1° C) or below are to be consumed within 30days or discarded.
Re-thermalization	Re-thermalize (heat) all ROP foods until all internal parts of the product reaches 140° F (60° C).
Labeling	All ROP products must be labeled to include at a minimum; product name, date packaged, required storage temperature, and discard date. Label should always be in accordance with approved HACCP plan.

PRINCIPLE 4. ESTABLISH MONITORING PROCEDURES

Once you have decided which process steps are CCPs and have set the critical limits, a food worker from the HACCP team must be assigned to take necessary measurements and record the observations.

Monitoring is a planned sequence of observations or measurements to assess whether the CCP is under control and to produce an accurate record for future use in verification. When it is not possible to monitor a critical limit on a continuous basis, it is necessary to establish that the monitoring interval will be reliable enough to indicate that the hazard is under control. Monitoring is intended to prevent deviations from occurring or to indicate when one has actually occurred, so that corrective action can be initiated.

Food workers from the HACCP team who are responsible for the monitoring process must:

- be trained in the monitoring technique for which they are responsible
- fully understand the purpose and importance of monitoring
- be unbiased in monitoring and reporting, and
- accurately report the results of the monitoring

For example: Checking the temperature of a refrigerator to ensure it is within its critical limit. In this example, the control measure (to inhibit bacterial growth) is to control the temperature. If the critical limit has been set at no higher than 41° F (5° C) the purpose of monitoring is to verify that the critical limit of 41° F (5° C) has been met. Cook chill and sous vide operations must have equipment to continuously monitor and record temperatures.

Certain control measures may have critical limits that cannot be easily measured. For example: how would you monitor the activities of the food worker to prevent cross contamination? The use of differently colored cutting boards for raw and cooked products is one way of providing the control measure for hazards such as cross contamination in preparation. In this case, the effective monitoring is a visual check by the supervisor of the operations. All records and documents associated with CCP monitoring should be dated and signed or initialed by the person doing the monitoring.

PRINCIPLE 5. ESTABLISH CORRECTIVE ACTIONS

Whenever there is a deviation from established critical limits, corrective actions are necessary. Specific corrective actions should be developed in advance for each CCP and included in the HACCP plan. As a minimum, the HACCP plan should specify what is done when a deviation occurs, who is responsible for implementing the corrective actions, and that a record will be developed and maintained of the actions taken. Only food workers who have a thorough understanding of the process, product, and HACCP plan should be assigned the responsibility for oversight of corrective actions.

Here are a few examples of corrective action:

- If your refrigerator temperature Critical Limit is 41° F (5° C) but your “monitoring” check finds that the refrigerator is running at 53.6° F (12° C), your “corrective action” could be: "call the maintenance engineer and discard the food".
- If your cross contamination critical limit is to "keep raw and cooked ready-to-eat foods separated" but your “monitoring” check finds blood on the board to be used for chopping vegetables, then your “corrective action” could be: "thoroughly clean and sanitize the board, retrain your food workers and dispose of affected food."

PRINCIPLE 6. IMPLEMENT VERIFICATION PROCEDURES

Verification is defined as those activities, other than monitoring, that determine the validity of the HACCP plan and that the system is operating according to the plan. Verification involves taking an overview of your HACCP based system to ensure it is working. Verification also involves establishing that your procedures are effective in controlling hazards and checking to see that your procedures are being applied in practice.

Verification activities are carried out by the person in charge of food operations who routinely verifies that the food worker is following the HACCP plan. All verification actions undertaken must be recorded. One aspect of verification is evaluating whether the FSE's HACCP system is functioning according to the HACCP plan. The person in charge of food operations should rely on:

- frequent reviews of the HACCP plan,
- verifying that the HACCP plan is being correctly followed, and
- review of CCP monitoring and corrective action records.

Examples of verification activities include checking to see that:

- control measures at CCPs are being consistently applied
- appropriate corrective actions have been taken
- monitoring records are consistent and accurate, and
- procedures are still relevant and up to date.

PRINCIPLE 7. ESTABLISH AND IMPLEMENT A RECORD-KEEPING SYSTEM

Accurate record keeping is an essential part of a successful HACCP program. Written records or other kinds of documentation approved by the Department will be needed in order to verify that the system is working. Records provide documentation that the critical limits have been met or that appropriate corrective actions were taken when the limits were exceeded. Likewise, they provide a means of monitoring so that process adjustments can be made to prevent a loss of control.

Record keeping should be as simple as possible to facilitate accurate data collection by the designated food worker.

Records to be kept as part of the HACCP system include:

1. HACCP plan and support documentation used in developing the plan
2. Records of CCP monitoring
3. Records of corrective action
4. Records of verification activities

Specifically these records are:

- HACCP Plan Form
- Approved Source
- Receiving Log
- Damaged and Discarded product Log
- Daily Storage Temperature Log
- Daily cooking and Reheating Log
- Cooling Temperature Log
- Thermometer Calibration Log
- Corrective Action Log
- Food worker training record

All records need to be kept on site for at least 90 days after consumption of the food prepared pursuant to the HACCP plan to demonstrate that the HACCP plan has been properly implemented.

RECOMMENDATIONS FOR ROP

(1) EMPLOYEE (FOODWORKER) TRAINING

If ROP is used, food workers assigned to packaging and/or processing the food must be trained, and must demonstrate familiarity with ROP guidelines and the potential hazards associated with these foods.

(2) REFRIGERATION REQUIREMENTS

The use of refrigeration to ensure food safety in ROP requires very rigorous temperature controls and monitored refrigeration equipment. The refrigeration unit should be equipped with an electronic system that continuously monitors time and temperature and should be visually examined for proper operation twice daily.

Food that has an Aw of 0.91 or less; has a pH of 4.6 or less; is a meat or poultry product cured at a food processing plant regulated by the United States Department of Agriculture using substances specified in 9CFR 424.21, or successor regulation, and is received in an intact package; or is a food with high level of competing organisms such as raw meat or raw poultry, may be held at 41° degrees Fahrenheit (5° Celsius) without being cooked for no more than 14 calendar days, and must be discarded after 14 days.

New guidelines have been established in the 2013 FDA food code (excerpts attached to this document). If you would like to use the new guidelines a variance from the 2012 Wyoming Food Safety Rule will be required. Please ask our office if you are interested in this.

(3) LABELING

Each ROP packaged food must bear the product name, date packed, and date to be discarded and stored in accordance with a "First-in" "First-out" storage rotation procedure in accordance with the HACCP plan.

Table 2: Hazard Analysis Example

PROCESS STEP					
Processing Step	Potential Hazards (C) Chemical (P) Physical (B) Biological	Is this potential food safety hazard significant?	Justification of Decision (research papers, documentation etc)	Preventive Measures	Is this step a CCP?
Meat Receiving	(B) Pathogens Salmonella & E. coli 0157:H7 Clostridium botulinum (C) and (P) None	Yes	May be present on in-coming raw meat. Proper storage & handling at subsequent steps can reduce the growth of E.coli if present.	Approved supplier showing that the meat has met regulatory standards.	CCP #1
Storage					
Preparation					
Vacuum Packaging					
Labeling					
Cold Storage					
Cooking					
Chilling					
Rethermalize					
Service					

Name of Food Establishment: _____

Brief Product Description: _____

Address: _____

Signature & Date: _____

Table 3: ROP HACCP Plan Summary Example

CCP's

Critical Control Point (CCP)	Hazard Description	Critical Limits for each Control Measure	Monitoring				Corrective Action	Verification Activities	Record Keeping Procedures
			What	How	Frequency	Who			
1 Receiving raw Beef	Salmonella and E. coli bacteria	Supplier Certification that product has been sampled for Salmonella must accompany shipment	Check each shipment	Visual Examination of Records	Everyday meat is supplied	Designated food worker	Will not received meat unaccompanied by Salmonella certification	Receiving log will be reviewed every month to ensure compliance	
Storage									
Labeling									
Cooking									

Name of Food Establishment: _____

Brief Product Description: _____

Address: _____

Signature & Date: _____

CCP Decision Tree Table

1. Do preventive measures exist at this step or subsequent steps for the identified hazard?

Yes

No

Modify step,
process or product

Yes

2. Does this step eliminate or reduce the likely occurrence of a hazard to an acceptable level?

Is control at this step necessary for safety?

No

3. Could contamination with identified hazards occur in excess of acceptable levels or could these increase to unacceptable levels?

Yes

Yes

4. Will a subsequent step eliminate identified hazards or reduce the likely occurrence to an acceptable level?

Yes

No

No

No

**Critical
Control
Point**

STOP
Not a Critical
Control Point

HACCP-Based SOPs - Examples

Cleaning and Sanitizing Food Contact Surfaces (Sample SOP)

PURPOSE: To prevent foodborne illness by ensuring that all food contact surfaces are properly cleaned and sanitized.

SCOPE: This procedure applies to foodservice employees involved in cleaning and sanitizing food contact surfaces.

KEY WORDS: Food Contact Surface, Cleaning, Sanitizing

INSTRUCTIONS:

1. Train foodservice employees on using the procedures in this SOP.
2. Follow manufacturer's instructions regarding the use and maintenance of equipment and use of chemicals for cleaning and sanitizing food contact surfaces. Refer to Storing and Using Poisonous or Toxic Chemicals SOP.
3. Wash, rinse, and sanitize food contact surfaces of sinks, tables, equipment, utensils, thermometers, carts, and equipment:
 - Before each use
 - Between uses when preparing different types of raw animal foods, such as eggs, fish, meat, and poultry
 - Between uses when preparing ready-to-eat foods and raw animal foods, such as eggs, fish, meat, and poultry
 - Any time contamination occurs or is suspected
4. Wash, rinse, and sanitize food contact surfaces of sinks, tables, equipment, utensils, thermometers, carts, and equipment using the following procedure:
 - Wash surface with detergent solution.
 - Rinse surface with clean water.
 - Sanitize surface using a sanitizing solution of chlorine mixed at 1 teaspoon per gallon of water to yield a concentration of 50-100 ppm CL (tested with appropriate test strips)
 - Place wet items in a manner to allow air drying.

HACCP-Based SOPs - Examples

Cleaning and Sanitizing Food Contact Surfaces, continued (Sample SOP)

INSTRUCTIONS, continued:

5. If a 3-compartment sink is used, setup and use the sink in the following manner:
 - In the first compartment, wash with a clean detergent solution at or above 110 °F or at the temperature specified by the detergent manufacturer.
 - In the second compartment, rinse with clean water.
 - In the third compartment, sanitize with a chlorine sanitizing solution mixed at a concentration of 50- 100 ppm. Test the chemical sanitizer concentration by using an appropriate test kit.
6. If a dishmachine is used:
 - Ensure that the dishmachine is washing properly and use a test kit to ensure final rinse water is a chlorine sanitizing solution mixed at a concentration of 50- 100 ppm.

MONITORING:

Foodservice employees will:

1. During all hours of operation, visually and physically inspect food contact surfaces of equipment and utensils to ensure that the surfaces are clean.
2. In a 3-compartment sink, on a daily basis:
 - Visually monitor that the water in each compartment is clean.
 - Take the water temperature in the first compartment of the sink by using a calibrated thermometer.
 - Use chlorine test strips to ensure sanitizer solutions are at the correct concentration of 50 -100ppm.
3. In a dishmachine, on a daily basis:
 - Visually monitor that the water and the interior parts of the machine are clean and free of debris.
 - For chemical sanitizing dishmachine, check the sanitizer concentration on a recently washed food-contact surface using an appropriate test kit.

CORRECTIVE ACTION:

1. Retrain any foodservice employee found not following the procedures in this SOP.
2. Wash, rinse, and sanitize dirty food contact surfaces. Sanitize food contact surfaces if it is discovered that the surfaces were not properly sanitized. Discard food that comes in contact with food contact surfaces that have not been sanitized properly.
3. In a 3-compartment sink:
 - Drain and refill compartments periodically and as needed to keep the water clean.
 - Adjust the water temperature by adding hot water until the desired temperature is reached.

HACCP-Based SOPs

- Add more sanitizer or water, as appropriate, until the proper concentration is achieved.
4. In a dishmachine:
- Drain and refill the machine periodically and as needed to keep the water clean.
 - Contact the appropriate individual(s) to have the machine repaired if the machine is not reaching the proper wash temperature indicated on the data plate.
 - For a chemical sanitizing dishmachine, check the level of sanitizer remaining in bulk container. Fill, if needed. “Prime” the machine according to the manufacturer’s instructions to ensure that the sanitizer is being pumped through the machine. Retest. If the proper sanitizer concentration level is not achieved, stop using the machine and contact the appropriate individual(s) to have it repaired. Use a 3-compartment sink to wash, rinse, and sanitize until the machine is repaired.

VERIFICATION AND RECORD KEEPING:

Foodservice employees will record monitoring activities and any corrective action taken on the Food Contact Surfaces Cleaning and Sanitizing Log. The foodservice manager will verify that foodservice employees have taken the required temperatures and tested the sanitizer concentration by visually monitoring foodservice employees during the shift and reviewing, initialing, and dating the Food Contact Surfaces Cleaning and Sanitizing Log. The log will be kept on file for at least 1 year. The foodservice manager will complete the Food Safety Checklist daily. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

Teton Health District

Rules for FOOD SAFETY

RULE 2014



Sections relating to ROP and HACCP

- (A) The time when the food is removed from 41° F (5° C) or less cold holding temperature control, and
 - (B) The time that is 6 hours past the point in time when the food is removed from cold holding temperature control;
- 4 The food shall be:
- (A) Discarded if the temperature of the food exceeds 70° F (21° C), or
 - (B) Cooked and served, served if ready-to-eat, or discarded within a maximum of 6 hours from the point in time when the food is removed from 41° F (5° C) or less cold holding temperature control; and
- 5 The food in unmarked containers or packages, or marked with a time that exceeds the 6-hour limit shall be discarded.
- (d) A food establishment that serves a highly susceptible population may not use time as specified in Chapter 3, Section 61(a)-(c) as the public health control for raw eggs.

Section 63. Variance Requirement.

- (a) An establishment or processing plant shall obtain a variance from the regulatory authority as specified in Chapter 1, Section 6, and under Chapter 1, Section 7, before:
- 1 Smoking food as a method of food preservation rather than as a method of flavor enhancement;
 - 2 Curing food; brewing alcoholic beverages;
 - 3 Using food additives or adding components such as vinegar:
 - (A) As a method of food preservation rather than as a method of flavor enhancement, or
 - (B) To render a food so that it is not Time/Temperature Control for Safety Food;
 - 4 Packaging Time/Temperature Control for Safety Food using a reduced oxygen packaging method except where the growth of and toxin formation by *Clostridium botulinum* and the growth of *Listeria monocytogenes* are controlled as specified under Section 64 of this chapter;
 - 5 Operating a molluscan shellfish life-support system display tank used to store and display shellfish that are offered for human consumption;

- 6 Custom processing animals that are for personal use as food and not for sale or service in an establishment or processing plant;
- 7 Preparing food by another method that is determined by the regulatory authority to require a variance; or
- 8 Sprouting seeds or beans.

Section 64. Reduced Oxygen Packaging, Criteria.

- (a) Except for an establishment or processing plant that obtains a variance as specified under Chapter 3, Section 63, to control the growth and toxin formation of *Clostridium botulinum* and the growth of *Listeria monocytogenes*.
- (b) An establishment or processing plant that packages Time/Temperature Control for Safety Food using a reduced oxygen packaging method shall have a HACCP plan that contains the information specified under Chapter 10, Section 2(a)(4), and that:
 - 1 Identifies the food to be packaged;
 - 2 Except as specified in (c) and (e) and as specified in (d) of this Section, requires that the packaged food shall be maintained at 41° F (5° C) or less and meet at least one of the following criteria:
 - (A) Has an a_w of 0.91 or less;
 - (B) Has a pH of 4.6 or less;
 - (C) Is a meat or poultry product cured at a food processing plant regulated by the U.S.D.A. using substances specified in 9 CFR 424.21, Use of food ingredients and sources of radiation and is received in an intact package; or
 - (D) Is a food with a high level of competing organisms such as raw meat, raw poultry or raw vegetables;
 - 3 Describes how the packages shall be prominently and conspicuously labeled on the principal display panel in bold type on a contrasting background, with instructions to:
 - (A) Maintain the food at 41° F (5° C) or below; and
 - (B) Discard the food if within thirty (30) calendar days of its packaging it is not served for on-premises consumption, or consumed if served or sold for off-premises consumption;
 - 4 Limits the refrigerated shelf life to no more than thirty (30) calendar days from packaging to consumption, except the time the product is maintained frozen, or the original manufacturer's "sell by" or "use by" date, whichever occurs first;

- 5 Includes operational procedures that:
 - (A) Prohibit contacting ready to eat food with bare hands as specified under Chapter 3, section 39(b);
 - (B) Identify a designated area and the method by which:
 - (I) Physical barriers or methods of separation of raw foods and ready-to-eat foods minimize cross contamination; and
 - (II) Access to the processing equipment is limited to responsible trained personnel familiar with the potential hazards of the operation; and
 - (C) Delineate cleaning and sanitization procedures for food-contact surfaces; and
 - 6 Describes the training program that ensures that the individual responsible for the reduced oxygen packaging operation understands the:
 - (A) Concepts required for a safe operation;
 - (B) Equipment and facilities; and
 - (C) Procedures specified under Chapter 3, Section 64(a)(6), and Chapter 10, Section 2(a)(4)
 - 7 Is provided to the regulatory authority prior to implementation as specified under Chapter 10, Section 1(a-b)
- (c) Except for fish that is frozen before, during, and after packaging, an establishment may not package fish using a reduced oxygen packaging method.
- (d) Except as specified in (c) of this Section, a food establishment may package Time/Temperature Control for Safety Food using a cook-chill or sous vide process shall:
- 1 Implement a HACCP plan that contains the information as specified in Chapter 10, Section 2(4);
 - 2 Ensure the food is:
 - (A) Prepared and consumed on the premises, or prepared and consumed off the premises but within the same business entity with no distribution or sale of the bagged product to another business entity or the consumer,
 - (B) Cooked to heat all parts of the food to a temperature and for a time as specified in Chapter 3, Section 41(a- c),

- (C) Protected from contamination after cooking,
 - (D) Placed in a package or bag with an oxygen barrier and Sealed before cooking, or placed in a package or bag immediately after cooking and before reaching a temperature below 135° F (57° C),
 - (E) Cooled to 41°F (5°C) in the sealed package as specified in Chapter 3, Section 31 and subsequently:
 - (I) Cooled to 34°F (1°C) within 48 hours of reaching 41°F (5°C); and held at that temperature until consumed or discarded within 30 days after the date of packaging;
 - (II) Held at 5°C (41°F) or less for no more than 7 days, at which time the FOOD must be consumed or discarded; or
 - (III) Held frozen with no shelf life restriction while until consumed or used.
 - (F) Held in a refrigeration unit that is equipped with an electronic system that continuously monitors time and temperature and is visually examined for proper operation twice daily,
 - (G) If transported off-site to a satellite location of the same business entity, equipped with verifiable electronic monitoring devices to ensure that times and temperatures are monitored during transportation, and
 - (H) Labeled with the product name and the date packaged;
- 3 The records required to confirm that cooling and cold holding refrigeration time/temperature parameters are required as part of the HACCP plan, are maintained and are:
- (A) Made available to the regulatory authority upon request, and
 - (B) Hold such records for 6 months; and
- 4 Implement written operational procedures as specified in (b)(5) of this Section and a training program as specified in (b)(6) of this Section are implemented.
- (e) An establishment that packages cheese using a reduced oxygen packaging method shall:
- 1 Limits the cheeses packaged to those that are commercially manufactured in a processing plant with no ingredients added in

the establishment and that meet the Standards of Identity as specified in 21 CFR 133.150 Hard cheeses, 21 CFR 133.169 Pasteurized process cheese or 21 CFR 133.187 Semisoft cheeses;

- 2 Have a HACCP plan that contains the information specified in Chapter 10, Section 2(a)(iv) and as specified under (b)(1), (b)(3)(A) and (b)(6) of this Section;
 - 3 Labels the package on the principal display panel with a "use by" date that does not exceed 30 days or the original manufacturer's "sell by" or "use by" date, whichever occurs first; and
 - 4 Discards the reduced oxygen packaged cheese if it is not sold for off-premises consumption or consumed within 30 calendar days of its packaging
- (f) A HACCP Plan is not required when a food establishment uses a reduced oxygen packaging method to package time/temperature control for safety food that is always:
- 1 Labeled with the production time and date,
 - 2 Held at 5°C (41°F) or less during refrigerated storage, and
 - 3 Removed from its package in the food establishment within 48 hours after packaging.

Section 65. Standards of Identity.

- (a) Packaged food shall comply with standard of identity requirements as specified in law including the Wyoming Food, Drug and Cosmetic Safety Act, W. S. 35-7-109 through 35-7-127, 21 CFR 131-169 and 9 CFR 319 Definitions and Standards of Identity or Composition, and the general requirements in 21 CFR 130 - Food Standards: General and 9 CFR 319 Subpart A - General.

Section 66. Honestly Presented.

- (a) Food shall be offered for human consumption in a way that does not mislead or misinform the consumer and as specified in law including the Wyoming Food, Drug and Cosmetic Safety Act, W. S. 35-7-109 through 35-7-127.
- (b) Food or color additives, colored overwraps, or lights may not be used to misrepresent the true appearance, color, or quality of a food and as specified in law including the Wyoming Food, Drug and Cosmetic Safety Act, W. S. 35-7-109 through 35-7-127.

The following pages contain sections from the 2013 FDA Food Code Annex 3 – Public Health Reasons/ Administrative Guidelines 3-502.12. This explains the rationale for specific regulations regarding the use of reduced oxygen packaging.

3-502.12

Reduced Oxygen Packaging Without a Variance, Criteria.

Reduced oxygen packaging (ROP) encompasses a large variety of packaging methods where the internal environment of the package contains less than the normal ambient oxygen level (typically 21% at sea level), including vacuum packaging (VP), modified atmosphere packaging (MAP), controlled atmosphere packaging (CAP), cook chill processing (CC), and sous vide (SV). Using ROP methods in food establishments has the advantage of providing extended shelf life to many foods because it inhibits spoilage organisms that are typically aerobic. ROP may also offer benefits related to time and labor savings, portion control and quality retention. However, ROP can also increase the potential for the growth of certain pathogens in the absence of the growth of competing spoilage organisms. For example, if certain controls are not in place, the formation of ***C. botulinum*** toxin may occur before spoilage renders the product unacceptable to the consumer.

The type of food, the production and packaging methods used, and the packaging material can impact the level of oxygen present within a package and within the food matrix. Combinations of some or all of these variables may result in an oxygen level within a package, or within a food matrix, that is less than 21%. While ROP may involve different foods and different packaging materials, each process is characterized by the deliberate removal of oxygen from or the reduction in the oxygen level in the package or the food matrix at the time of packaging.

Certain foodborne pathogens that are anaerobes or facultative anaerobes are able to multiply under either aerobic or anaerobic conditions. Therefore special controls are necessary to control their growth. Refrigerated storage temperatures of 5°C (41°F) may be adequate to prevent growth and/or toxin production of some pathogenic microorganisms but non-proteolytic ***C. botulinum*** and ***L. monocytogenes*** are able to multiply well below 5°C (41°F). For this reason, ***C. botulinum*** and ***L. monocytogenes*** are the pathogens of concern for ROP. Controlling their growth will control the growth of other foodborne pathogens as well.

Reduced Oxygen Packaging with Two Barriers

When followed as written, the ROP methods in this section all provide controls for the growth and/or toxin production of ***C. botulinum*** and ***L. monocytogenes*** without a variance. Paragraph 3-502.12 (B) identifies an ROP method with secondary barriers that will control ***C. botulinum*** and ***L. monocytogenes*** when used in conjunction with a food storage temperature of 5°C (41°F) or less. These barriers are:

- a_w of 0.91 or less;
- pH of 4.6 or less;
- cured, USDA inspected meat or poultry products using substances specified in 9 CFR 424.21; or

- high levels of competing microorganisms such as those found on raw meat or raw poultry or raw vegetables.

The barriers described above are effective controls for **C. botulinum** and **L. monocytogenes** in reduced oxygen packaged foods because:

- **C. botulinum** will not produce toxin below an a_w of 0.91, and the minimum a_w for growth of **L. monocytogenes** is 0.92.
- **C. botulinum** will not produce toxin when the pH is 4.6 or below and **L. monocytogenes** will generally not grow at this pH under refrigeration temperatures.
- Nitrite, used in meat and poultry curing, inhibits the outgrowth of **C. botulinum** spores.
- Most foodborne pathogens do not compete well with other microorganisms. Therefore foods that have a high level of spoilage organisms or lactic acid bacteria that grow under ROP conditions can safely be packaged using ROP and held for up to 30 days at 5°C (41°F).

Other intrinsic or extrinsic factors can also control the growth and/or toxin production of **C. botulinum** and **L. monocytogenes**.

Foods that are not time/temperature control for safety food (TCS) should not support the growth of **C. botulinum** and **L. monocytogenes**. Therefore the reduced oxygen packaging HACCP requirements of sections 3-502.11 or 3-502.12, apply only to TCS foods.

Reduced Oxygen Packaging with One Barrier (Cook-Chill and Sous Vide)

Some foods may not have secondary barriers to prevent the growth of **C. botulinum** and **L. monocytogenes**, such as a_w , pH, nitrite in cured meat products, high levels of competing microorganisms or intrinsic factors in certain cheeses. When these foods are packaged using a reduced oxygen packaging process, time/temperature becomes the critical controlling factor for growth of **C. botulinum** and **L. monocytogenes**. Non-proteolytic **C. botulinum** spores are able to germinate and produce toxin at temperatures down to 3°C (38°F). Therefore, holding ROP foods at 3°C (38°F) or less should prevent the formation of **C. botulinum** toxin. **L. monocytogenes** is able to grow, although very slowly, at temperatures down to -1°C (30°F). The lag phase and generation time of both pathogens becomes shorter as the storage temperature increases. In ¶ 3-502.12(D), cook-chill processing where food is cooked then sealed in a barrier bag while still hot and sous vide processing where food is sealed in a barrier bag and then cooked, both depend on time/temperature alone as the only barrier to pathogenic growth. Therefore, monitoring critical limits including those established for cooking to destroy vegetative cells, cooling to prevent outgrowth of spores/toxin production, and maintaining cold storage temperatures to inhibit growth and/or toxin production of any surviving pathogens is essential. Three separate options are provided in (D)(2)(e).

These time-temperature combinations will provide equivalent food safety protection without need for a variance. (*L. monocytogenes* will be eliminated by the cooking procedures specified in ¶¶3-401.11(A), (B) and (C) and recontamination will be prevented by filling the product into the bag while it is still hot (cook-chill) or by cooking in the sealed bag (sous vide). *C. botulinum* will not grow under the specified time-temperature combinations.)

Since there may not be other controlling factors for *C. botulinum* and *L. monocytogenes* in a cook-chill or sous vide packaged product, continuous monitoring of temperature control and visual examination to verify refrigeration temperatures is important. New technology makes it possible to continuously and electronically monitor temperatures of refrigeration equipment used to hold cook-chill and sous vide products at 1°C (34°F) or 5°C (41°F) or less. Thermocouple data loggers can connect directly with commonly available thermocouple probes. Recording charts are also commonly used. Temperature monitors and alarm systems will activate an alarm or dialer if temperatures rise above preset limits. Nickel-sized data loggers are available to record temperatures that can be displayed using computer software. Since surveys have shown that temperature control in home kitchens is not always adequate, food packaged using cook-chill or sous vide processing methods cannot be distributed outside the control of the food establishment doing the packaging.

Reduced Oxygen Packaging with Cheese

Cheeses, as identified in ¶ 3-502.12(E), that meet the Standards of Identity for hard, pasteurized process, and semisoft cheeses in 21 CFR 133.150, 21 CFR 133.169, or 21 CFR 133.187, respectively, contain various intrinsic factors, often acting synergistically, that together act as a secondary barrier to pathogen growth along with refrigerated storage at 5°C (41°F) or less. This combination of factors could include some or all of the following:

- a lower pH;
- salt (NaCl) added during processing;
- low moisture content;
- added preservatives; and
- live competing cultures.

The extended shelf life for vacuum packaged hard and semisoft cheeses is based on the intrinsic factors in these cheeses plus the refrigeration temperature of 41°F or less to maintain safety. Examples of cheeses that may be packaged under ROP include Asiago medium, Asiago old, Cheddar, Colby, Emmentaler, Gruyere, Parmesan, Reggiano, Romano, Sapsago, Swiss, pasteurized process cheese, Asiago fresh and soft, Blue, Brick, Edam, Gorgonzola, Gouda, Limburger, Monterey, Monterey Jack, Muenster, Provolone, and Roquefort. Soft cheeses such as Brie, Camembert, Cottage, and Ricotta may not be packaged under reduced oxygen because of their ability to support the growth of *L. monocytogenes* under modified atmosphere conditions.

Reduced Oxygen Packaging with Fish

Unfrozen raw fish and other seafood are specifically excluded from ROP at retail because of these products' natural association with non-proteolytic *C. botulinum* (primarily type E) which grows at 3°C (37-38°F). ROP of fish and seafood that are frozen before, during and after the ROP packaging process does not present this hazard.

HACCP Plans with Reduced Oxygen Packaging

A Hazard Analysis and Critical Control Point (HACCP) plan is essential when using ROP processing procedures. *C. botulinum* and *L. monocytogenes* are potential hazards which must be controlled in most TCS foods. Critical control points, critical limits, monitoring, record keeping, corrective actions, and verification procedures will vary based on the type of food and type of ROP technology used. Developing a HACCP plan and providing a copy to the regulatory authority prior to implementation provides notice to the regulatory authority that the food establishment intends to conduct ROP operations and makes it possible to verify that the appropriate ROP procedures are being followed and that the requirements of §3-502.12 are being met.

When a food establishment intends to conduct ROP and hold the product for more than 48 hours without using one of the secondary barriers defined in section 3-502.12 (the criteria specified in paragraph 3-502.12(D) combined with holding the product at 5°C (41°F) or less, or hard or semisoft cheeses manufactured using Standards of Identity for those cheeses), it is important that an application for a variance (under section 3-502.11) provide evidence that the ROP methodology intended for use is safe.

The Relationship Between Time and Reduced Oxygen Packaging

Time is also a factor that must be considered in ROP at retail. The use of date labels on VP, MAP, and CAP products and assuring those dates do not exceed the manufacturer's "sell by" or "use by" date is intended to limit the shelf life to a safe time period (based on a time in which growth will not occur or involves the presence of two barriers to growth). When these ROP products are frozen, there is no longer a restricted shelf life. The shelf life limits for cook-chill and sous-vide foods are based on killing all vegetative cells in the cooking process, preventing recontamination, and then refrigerating at 1°C (34°F) or less for 30 days or 5°C (41°F) or less for 7 days after packaging, with stringent temperature monitoring and recording requirements. These criteria allow both institutional-sized cook-chill operations that may feed thousands daily, often including transportation to their satellite locations, and individual restaurants without ice banks and tumble or blast chillers to safely use cook-chill and sous-vide processes.

3-502.12 (F) exempts refrigerated, ROP foods that are always removed from the package within 48 hours of packaging from the requirements in section 3-502.12 because growth and toxin formation by anaerobic pathogens in that limited time frame is not considered a significant hazard in such foods.

Accurate Representation	3-601.11 3-601.12	Standards of Identity. Honestly Presented.
Labeling	3-602.11 3-602.12	Food Labels. Other Forms of Information.

The identity of a food in terms of origin and composition is important for instances when a food may be implicated in a foodborne illness outbreak and for nutritional information requirements. Ingredient information is needed by consumers who have allergies to certain food or ingredients. The appearance of a food should not be altered or disguised because it is a cue to the consumer of the food's identity and condition.

Food Labels and other forms of Information

Food labels serve as a primary means by which consumers can make informed decisions about their food selections. Many items in a food establishment are provided by the food employee to the consumer upon consumer request. When a consumer orders a specific food or specific amount of food from a food employee, that employee may put the food in a wrapper or carry-out container at the time the order is placed. This food is not considered “packaged”, per the Food Code definition; it was merely wrapped or placed in a carry-out container to facilitate service and delivery of the food to the consumer in a protected manner. When food is under the direct control of the operator and provided to the consumer upon consumer request, the consumer has an opportunity to ask about ingredients, nutrients, allergens and weight.

Alternatively, some food items are enclosed in a container or wrapping for use in the display of that item for consumer self-service. In these instances, the label provides an important source of information for consumers to answer questions about ingredients, allergens, weight, and manufacturer.

List of Ingredients

A list of ingredients on the label enables a consumer to make an informed decision about a packaged food product. Therefore it is important that the list of ingredients accurately describe all of the ingredients present in the food. In some instances, an ingredient itself may be composed of two or more ingredients, or sub-ingredients. The 21 CFR 101.4(b)(2), calls for the sub-ingredients to be declared on the label - d. One example includes parenthetically listing the individual sub-ingredients in descending order of predominance after the common or usual name of the main ingredient, as illustrated here: