|  |
| --- |
| **HACCP Plan: Preserving Fish by Hot-Smoking** **Establishment Name and Address** |
| Products: | List the final products for this process. If menu flexibility is a concern, discuss with the regulatory authority how best to build that flexibility into this plan. |
| Ingredients: | Provide a list of product names (such as acidified sushi rice, salad dressings, beef medallions) and ingredients, including the proteins and any marinades. To allow for menu flexibility, include all raw major and minor ingredients that might be used occasionally with this process (such as seasonal menu items). If making sausages, what type and diameter of edible sausage casing will be used? Exact recipes will be required for processes such as canning, fermentation, or curing. For more information, refer to the section of this manual that covers the specific process in which you are interested.  |
| Packaging Spec’s: | How will the finished product be packaged (vacuum, modified atmosphere, controlled atmosphere, canned, bottled, cartoned, bagged, or wrapped)? What type of ROP film will be used)?  |
| Labeling Req's: | What information must be on the package label? What allergens are present in the product that must be specifically identified on the label? Packaging and use-by dates? If product may or will be sold to consumers for home use, what safe handling instructions are required? (If the consumer must maintain temperature control, or must cook or reheat to a certain temperature, those instructions must be included on the label along with a consume- or discard-by date). Provide an example of the label that will be used.  |
| Intended Use: | Is the product displayed and sold refrigerated, or frozen? Is the finished product ready-to-eat, or will it be subjected to full cooking at point of use (such as by the consumer) or as an ingredient in a recipe? Describe the typical consumer – general population, or high-risk population? Is the product used in-house only, sold for consumers’ home use, or both? Is the finished product used in-house in another recipe?  |
| Time/Shelf Life: | What is the shelf life for each product? Is the product stored refrigerated, frozen, or at room temperature? If refrigerated or frozen, what are the required temperatures? If different products have different shelf-life and storage temperatures, list those as separate line-items. Refer to the section of this manual pertaining to your process for further guidance on shelf life.  |

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| **PROCESS DESCRIPTION** |
| Summarize briefly how this process is used. Is the product used in-house only, or is it sold for customer use off premises? Describe or provide a diagram of the space where this process will be conducted. Is there a dedicated work area, or a procedure to prevent the possibility of cross contamination? |

|  |
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| **MAJOR EQUIPMENT LIST** (Include make, model, and link to specification sheet) |
| Grinder |  |
| Mixer |  |
| Thermometers/Temperature Measuring Device |  |
| Electronic Cooler Temperature Logger |  |
| pH Meter |  |
| Scale |  |
| Smokehouse |  |
| Vacuum Packaging Machine |  |
| Assorted Food Grade Measuring Containers, Utensils, Lugs, Totes |
|  |
| Add Other Equipment As Needed, e.g., Sous Vide Cooking Systems, Stuffers, Dehydrators, etc. |
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| **HACCP TEAM** |
| Which staff members will be trained and have HACCP responsibilities? Who will be responsible for training team members and maintaining the HACCP plan? |
| **Title** | **Role** |
| Example: Executive Chef | HACCP Team Leader |
|  | HACCP Team Member |
|  | HACCP Team Member |
|  | HACCP Team Member |
|  | HACCP Team Member |

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| **PROCESS FLOW DIAGRAM** |
| Verify that this diagram accurately represents your process, and modify as necessary using inserted text boxes and arrows. Or, you may provide your own process flow diagram on a separate sheet of paper. **Each step of the process must be represented.**The steps in the Hazard Analysis and of the Standard Operating Procedure below must exactly match the steps described in the Flow Diagram. |

Refrigerated/Frozen Non-refrigerated Ingredients,

 Packaging

Verified by (Name) Signature Date

Cold storage(14) CCP 5

Package and Label (13) CCP 4

Cooling (12) CCP 3

Smoke/Dry/Cook (11) CCP 2

Rinsing (10) \*

Brining (9) CCP 1

Rinsing (8)

Butchering (7)

 Prepare Brine (6)

Dry Store Ingredients (4)

Tempering (5)

Frozen Storage (3)

Receiving Fish (1)

Receive Non-Meat Ingredients (2)

Hazard Analysis Table: Preserving Fish by Hot Smoking

Establishment Name:

|  |
| --- |
| **HAZARD ANALYSIS** |
| **Process Step** | **What are the potential hazards?****B: Biological****C: Chemical****P: Physical** | **Is this hazard significant at this step?** | **What is the justification of your decision on significance (likelihood/severity)?** | **What preventive measures can be used to control the hazard(s)?** | **Is this step a CCP?** |
| Receiving Fish (scombroid & non-scombroid species) (1) | **B:** Pathogenic bacteria; parasites | No | Smoking/cooking controls bacteriaFreezing destroys parasitesUse mercury-free species onlyUse headed & gutted fish only | * Approved suppliers (Letters of Guaranty)
* Inspected at receiving (temperature, damage)
 | No |
| **C:** Mercury | No |
| **P:** None identified |  |
| Receiving Non-Meat Ingredients (2) | **B:** Pathogens | No | Approved supplier, purchase specifications, inspection upon receipt | * Approved suppliers (Letters of Guaranty)
* Inspected at receiving (temperature, damage)
* Use only canners grade (pickling) salt
 | No |
| **C:** Deleterious Chemicals | No |
| **P:** Foreign Material | No |
| Frozen Storage (3) | **B:** Pathogen growth (*C. botulinum*, *Listeria*) | No | Controlled by freezing, sanitation and storage procedures | * Frozen storage until needed
* SSOP
 | No |
| **C:** None identified |  |
| **P:** None identified |  |
| Dry/Cold Storage of Non-Meat Ingredients (4) | **B:** None identified |  | Controlled by proper sanitation and storage procedures | * Proper storage
* SSOP
 | No |
| **P:** None identified |  |
| **C:** None identified) |  |
| Tempering of Fish – Partial Thawing (5) | **B:** Growth or cross contamination with pathogens: *C. botulinum*, *Listeria* | No | Refrigeration control <40°F. and limiting to partial thawing controls potential growth of pathogens.Potential for cross contamination controlled by proper storage and SSOP. | * Product must remain partially frozen at time of butchering
* SSOP
 | No |
| **C:** None identified |  |
| **P:** None identified |  |
| Preparation of Brine (6) | **B:** Pathogen growth during smoking and in final product | Yes | Human error or failure to follow recipe or required brining time can result in pathogen growth during smoking or in final product.  | * Brine prepared and held cold until needed
* SSOP; Scale Calibration; Recipe/SOP
* Employee Health & Hygienic Practices
 | YESCCP 1A |
| **C:** None identified |  |
| **P:** None identified |  |
| Butchering (7) | **B:** Growth or cross contamination with pathogens: *C.* *botulinum*, *Listeria*; cross contamination with human-transmitted pathogens | No | Cold processing temperature and limited time prevent growth of pathogens.Potential cross contamination from equipment or mishandling controlled by SSOP, SOP, Employee Health/Hygiene policies | * Limit processing time; maintain cool processing environment
* SSOP
* Employee Health & Hygienic Practices
 | No |
| **C:** None identified |  |
| **P:** None identified  |  |
| Rinsing (8) | **B:** Cross contamination with human-transmitted pathogens or *Listeria* | No | Potential cross contamination from equipment or mishandling controlled by SSOP, SOP, Employee Health/Hygiene policies | * Fish rinsed in fresh water at < 70°F. to remove debris
* SSOP
* Employee Health & Hygienic Practices
 | No |
| **C:** None identified |  |
| **P:** None identified |  |
| Brining (9) | **B:** Pathogen growth during smoking and in final product | Yes | Human error or failure to follow recipe or required brining time can result in pathogen growth during smoking or in final product | * Brine prepared and held cold until needed
* SSOP; Scale Calibration; Recipe/SOP
* Employee Health & Hygienic Practices
 | YESCCP 1B |
| **C:** None identified |  |
| **P:** None identified |  |
| Rinsing (10) | **B:** Cross contamination with human-transmitted pathogens or *Listeria* | No | Potential cross contamination from equipment or mishandling controlled by SSOP, SOP, Employee Health/Hygiene policies | * Fish rinsed in fresh water at < 70°F. to remove surface brine
* SSOP
* Employee Health & Hygienic Practices
* Process SOP
 | No |
| **C:** None identified |  |
| **P:** None identified |  |
| Smoke/Dry/Cook (11) | **B:** Pathogen survival/growth in final product (*C.* *botulinum*, *Listeria*) | Yes | Undercooking may result in survival of pathogens. Underdrying may result in low water phase salt, which may allow growth and toxin formation by pathogens | * Cook or smoke to required temperature per SOP
* Dry for required time based on required brine strength
* Process SOP
 | YESCCP 2 |
| **C:** None identified |  |
| **P:** None identified |  |
| Cooling (12) | **B:** Cross contamination with human-transmitted pathogens; growth or recontamination with pathogens such as *Listeria* | Yes | Potential growth of pathogens if not properly cooled per Food Code.Potential cross contamination from equipment or mishandling controlled by SSOP, SOP, Employee Health/Hygiene policies. | * Cool per Food Code requirements
* SSOP, SOP, Employee Health & Hygienic Practices
 | YesCCP 3 |
| **C:** None identified |  |
| **P:** None identified |  |
| Package and Label (13) | **B:** Pathogen growth in temperature abused product | Yes | Bacterial spores can activate if not cooled properly, resulting in toxin formation. Product is RTE, potential is higher for recontaminationActivity and toxin formation by *C.* *botulinum* controlled by presence of nitrite | * Label must include use-by date and storage, handling and cooking instructions if sold for home use
* SSOP
* Employee Health & Hygienic Practices
 | YesCCP 4 |
| **C:** None identified |  |
| **P:** None identified |  |
| Cold Storage (15) | **B:** Pathogen growth in temperature abused product | Yes | Growth of pathogens may occur if product is temperature abused and/or if held beyond use-by date, especially if water phase salt is too low | * Monitor date marks for expiration and proper rotation
* Maintain temperature at or below 38oF.
* SSOP and storage SOP
 | YESCCP 5 |
| **C:** None identified |  |
| **P:** None identified |  |

HACCP Summary: Preserving Fish by Hot Smoking

Establishment Name:

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| --- |
| **HACCP SUMMARY (CCP Audit Table)** |
| **(1) Critical Control Point** | **(2) Hazard Description** | **(3) Critical Limits** | **Monitoring** | **(8) Corrective Action** | **(9) Verification Activities** | **(10) Record Keeping** |
| **(4) What** | **(5) How** | **(6) Frequency** | **(7) Who** |
| CCP 1Brine recipe and time | **B:** Pathogen growth | Brine recipe per required formulation | Minimum brine strength and time | Salinometer and in/out time | Each batch | Who is responsible for monitoring the critical limits at this step? | What actions are required if a critical limit is not met at this step? | What actions are taken to ensure procedures are followed, corrective actions are effective, and measurements are accurate? Who does this, and how often? | List the forms that are used to document monitoring data and verifications at this step. |
| Brining time |
| CCP 2Smoke/Dry/Cook  | **B:** Pathogen survival | Drying step at least X hours | Drying time required per validated process | In/out times | Each batch | Who is responsible for monitoring the critical limit at this step? | What actions are required if a critical limit is not met at this step? | What actions are taken to ensure procedures are followed, corrective actions are effective, and measurements are accurate? Who does this, and how often? | List the forms that are used to document monitoring data and verifications at this step. |
| Hold cooking temperature of 145°F. for minimum 15 seconds | Internal temperature | Calibrated probe thermometer |
| CCP 3Cooling | **B:** Pathogen growth | Cool from 135°F. to <70°F. in < 2 hrs. and 135°F. to < 41°F. in < 6 hrs. total time | Internal temperature (cooling rate) | Calibrated probe thermometer | Each batch | Who is responsible for monitoring the critical limit at this step? | What actions are required if a critical limit is not met at this step? | What actions are taken to ensure procedures are followed, corrective actions are effective, and measurements are accurate? Who does this, and how often? | List the forms that are used to document monitoring data and verifications at this step. |

Approved by: Date:

Standard Operating Procedures: Preserving Fish by Hot Smoking

Establishment Name:

*Only food establishment employees trained in the use of this process and have a thorough understanding of the HACCP plan shall conduct this process.*

1. **Receiving Raw Fish:** What must the receiving employee check or look for on each incoming shipment of refrigerated foods to ensure that they are acceptable for use – safe and not contaminated? Consider temperature at receipt as well as the condition of the packages? For what reasons would a shipment be rejected?
2. **Receiving Ambient Restricted and Non-Restricted Ingredients:** What must the receiving employee check or look for on each incoming shipment of non-refrigerated foods, ingredients and packaging materials to ensure that they are acceptable for use – safe and not contaminated? Consider condition of the packages? For what reasons would a shipment be rejected?
3. **Cold Storage:** What are the required storage procedures to ensure the food is properly refrigerated and protected from contamination?
4. **Dry Storage:** What are the required procedures to ensure the ingredients and packaging are properly stored and protected from contamination?
5. **Tempering of Meat:** Where will the fish be held for tempering before butchering? What **temperature** is required for safe tempering?
6. **Brine Preparation:** What work area is to be used for staging and weighing ingredients? Is this area separated from other workspace in order to prevent possible cross contamination? Are the recipes available for use during preparation? What is the required strength of the brine? What salt product and any other ingredients are to be used? Record the brine preparation at CCP 1 on the batch record.
7. **Butchering:** What are the fabrication instructions (thickness, length/width) for preparing pieces of fish to ensure uniform brining? Refer to the recipe card for each product, and give other general instructions as appropriate.
8. **Rinsing:** How and where is the fish to be rinsed to remove viscera residue and any other contaminants? What should be the maximum temperature of the rinse water?
9. **Brining** **(CCP 1):** What is to be used to hold the ingredients for weighing? Is calibration of the scale necessary? Provide specific instructions for weighing the exact amount of pink salt to be used for the batch. Refer to the recipe card.
* Critical Limit: What is the required minimum weight of salt per volume of water? What is the required brining time and temperature?
* Monitoring: What must the employee do, or how will measurements be made, to ensure that each critical limit has been met? What records will be maintained to demonstrate compliance with the Critical Limits?
* Corrective Action: For each Critical Limit, provide instructions to be followed if the critical limit is not met.
* Verification: How will management ensure that procedures are being followed correctly, required records are being maintained, and corrective actions are effective. Who is responsible, and how often will this activity occur?
1. **Rinsing:** How and where is the fish to be rinsed to remove surface brine? What should be the maximum temperature of the rinse water?
2. **Smoking/Drying/Cooking (CCP2):** Provide instructions for operation of the smokehouse. How will product temperatures be monitored? What temperature and humidity controls are required? Note that this step includes both the required drying and cooking treatments.
* Critical Limit: List the critical limits (time and temperature) that must be monitored and met to make and keep the product safe.
* Monitoring: What must the employee do, or how will measurements be made, to ensure that each critical limit has been met? Where are instructions to be found for calibration and use of instruments for monitoring? What records will be maintained to demonstrate compliance with the Critical Limits?
* Corrective Action: For each Critical Limit, provide instructions to be followed if the critical limit is not met.
* Verification: How will management ensure that procedures are being followed correctly, required records are being maintained, and corrective actions are effective. Who is responsible, and how often will this activity occur?
1. **Cooling (CCP 3):** What procedure will be used for cooling?How will the batch be cooled properly for safety?
* Critical Limit: List the critical limits that must be monitored and met to keep the product safe.
* Monitoring: What must the employee do, or how will measurements be made, to ensure that each critical limit has been met? What records will be maintained to demonstrate compliance with the Critical Limits?
* Corrective Action: For each Critical Limit, provide instructions to be followed if the critical limit is not met.
* Verification: How will management ensure that procedures are being followed correctly, required records are being maintained, and corrective actions are effective. Who is responsible, and how often will this activity occur?
1. **ROP Packaging and** **Labeling (CCP 4):** Provide instructions for an employee to follow as they are packaging and labeling the product. How should an employee package/seal appropriately? If product will be sold for consumer use, what use-by date, safe storage, handling and (if required) cooking instructions will be provided on the label for consumers? What is the correct way to determine the use-by date?
* Critical Limit: What is the maximum shelf life in days for determining the use-by date?

What should the required safe handling instructions read on the label?

* Monitoring: What must the employee do, or how will measurements be made, to ensure that each critical limit has been met? What records will be maintained to demonstrate compliance with the Critical Limits?
* Corrective Action: For each Critical Limit, provide instructions to be followed if the critical limit is not met.
* Verification: How will management ensure that procedures are being followed correctly, required records are being maintained, and corrective actions are effective. Who is responsible, and how often will this activity occur?
1. **Cold Holding (CCP 5):** Where will finished product be stored for future use or sale? How is product to be stored to protect from cross contamination?
* Critical Limit: What is the required storage temperature? What is the maximum shelf life date?
* Monitoring: What must the employee do, or how will measurements be made, to ensure that each critical limit has been met? What records will be maintained to demonstrate compliance with the Critical Limits?
* Corrective Action: For each Critical Limit, provide instructions to be followed if the critical limit is not met.
* Verification: How will management ensure that procedures are being followed correctly, required records are being maintained, and corrective actions are effective. Who is responsible, and how often will this activity occur?

### References:

A Retail Food Establishment Guide for Developing a HACCP Plan, April 2014, Association of Food and Drug Officials, <https://ag.utah.gov/documents/Retail_Food_Establishment_Guide_for_Developing_a_HACCP_Plan.pdf>

FDA 2022 Model Food Code, <https://www.fda.gov/media/164194/download>

Special Processes at Retail (FD 312), FDA – Office of Training, Education and Development (OTED)

Use of Cure Agent (nitrite): [9 CFR Part 424](https://www.ecfr.gov/current/title-9/chapter-III/subchapter-E/part-424), <https://www.ecfr.gov/current/title-9/chapter-III/subchapter-E/part-424>,

Model HACCP Plan for Hot Smoked Fish - Oregon Sea Grant Extension Program at <https://seagrant.oregonstate.edu/sites/seagrant.oregonstate.edu/files/sgpubs/onlinepubs/i97001.html>

<https://www.fsis.usda.gov/sites/default/files/media_file/2021-03/fplic-5a-cured-meat-and-poultry-operations.pdf>[Model HACCP Plan for Hot Smoked Fish](https://seagrant.oregonstate.edu/sites/seagrant.oregonstate.edu/files/sgpubs/onlinepubs/i97001.html)

Minneapolis, Minnesota Health Department HACCP Resources webpage: <http://www.minneapolismn.gov/health/inspections/HACCP>

## Sanitation Standard Operating Procedures (SSOP) - Template

### Cleaning and Sanitizing Procedure (Pre-Operational)

Properly cleaned and sanitized food contact surfaces are critical to ensuring a safe, sanitary operation. The use of **approved** cleaners and sanitizers in accordance with the manufacturer’s label instructions will reduce levels of pathogenic organisms to prevent cross contamination of the product. Detergent cleaners suspend and help remove various food soils. Chemical sanitizers reduce the number of pathogens and other microorganisms.

The clean-up process must be completed in accordance with the following general procedure. *Be sure to add any specific cleaning, sanitizing, and pre-operational inspection instructions required for the equipment used in your* ***HACCP*** *process or processes – such as dehydrator or smokehouse, slicers, grinders, choppers, and stuffers*.

* Pre-cleaning – equipment and utensils shall be pre-flushed, presoaked, or scraped as necessary to eliminate excessive food debris.
* Washing – equipment and utensils shall be effectively washed to remove or completely loosen soils using a manual or mechanical means. Only approved chemicals are to be used in this process. Mix concentration according to the manufacturer’s recommendations.
* Rinsing – washed utensils and equipment shall be rinsed to remove abrasives and to remove or dilute cleaning chemicals with water.
* Sanitizing – after being washed and rinsed, equipment and utensils must be sanitized with an approved chemical by immersion, manual swabbing, brushing or pressure spraying methods. Concentration and exposure times are important to ensure the effectiveness of the chemical. Refer to the manufacturer’s label for concentrations and times.
* Air drying - all utensils and equipment shall be air dried and inspected to ensure good repair before the next use.
* Ensure that an appropriate chemical test kit such as chlorine, quaternary ammonia, iodine, etc. test strips is available and routinely used to ensure that accurate concentrations of the sanitizing solutions are being used. What is the required chemical and concentration? How is this measured? How often is this measured?

Record results/findings/activities including sanitizer strength and corrective actions on Sanitation Log, along with initials of the person who performed cleaning and sanitizing, with date and time. Periodic verification review is to be documented by management.

### Frequency of Cleaning (Operational)

Equipment, food contact surfaces, and utensils shall be cleaned in a time frame as follows:

1. Before each use with a different type of raw animal food, including beef, fish, lamb, pork or poultry;
2. Each time there is a change from working with raw foods to working with ready-to-eat foods;
3. Between uses with raw fruits or vegetables and with potentially hazardous foods.
4. At any time during the operation when contamination may have occurred;
5. If used with TCS Foods, throughout the day at least once every four hours;
6. Utensils and equipment used to prepare food must be cleaned at least once every four hours when in use.
7. Slicers, grinders, stuffers, choppers and injectors must be disassembled for cleaning and sanitizing after each use, and must be inspected for any maintenance issues when reassembled for use.
8. Before using or storing a food temperature measuring device;
9. Equipment used for storage of packaged or un-packaged food, including coolers, and the equipment is cleaned at a frequency necessary to eliminate soil residue.
10. For ice bins, at a frequency necessary to preclude accumulation of soil or mold.
11. Cooking equipment shall be cleaned at a frequency to prevent the accumulation of food residues.
12. Non-food-contact surfaces of equipment shall be cleaned at a frequency necessary to prevent the accumulation of soil residues.

Provide a diagram of the kitchen showing where the special process is to be conducted. The concern is to show how the process and product will be protected to prevent cross contamination. It is understood that many retail kitchens may not have dedicated space in which to conduct their special processes, so explanation must be provided to detail how the process and product will be protected from cross contamination through other means such as physical barriers or separation in time and space with sanitation controls from other activities in the kitchen.

## Employee Hygienic Practices - Template

1. Hands are to be thoroughly washed for 10 to 15 seconds in a hand sink with soap and water, paying particular attention to the areas underneath the fingernails and between the fingers by scrubbing thoroughly with a fingernail brush. Dry with single-use towels. Hand washing is to be done at the following times:
* Changing or putting on gloves
* After using the toilet, in the toilet room
* After coughing, sneezing, using a tissue, using tobacco, eating or drinking
* After handling soiled equipment or utensils
* Immediately before engaging in food preparation activities
* During food preparation activities necessary to remove soil and prevent cross contamination
* When switching between raw and ready-to-eat foods
* Every four hours of continuous use in a single activity
* Other times as needed to maintain good sanitation
1. Fingernails must be kept trimmed, filed, free of nail polish, and maintained so the edges are cleanable and not rough. Artificial nails are prohibited.
2. Eating and drinking are prohibited in areas where contamination of exposed food, clean equipment, utensils, unwrapped single service and single-use articles could occur. A food employee may drink from a closed beverage container so long as it is handled and stored in a way that prevents contamination.
3. Effective hair restraints and beard covers (as appropriate) must be worn in processing areas.
4. Smoking and other uses of tobacco are prohibited. If smoking is allowed only in a designated location, include the information in this section.
5. Clean outer clothing must be worn each day and changed as often as necessary throughout the day (when moving from a raw food operation to a ready-to-eat food operation.
6. Smocks and aprons used by employees are to be hung in a designated area (where?) when not in use. They are not to be worn in the toilet area, eating areas, or locker rooms, or when taking a break.
7. Footwear is to be kept clean.
8. No jewelry (except a wedding band or other plain ring) is allowed during the handling of food.
9. Bare-hand contact with ready-to-eat food is prohibited. Employees must use gloved hands, deli paper, tongs, or other appropriate utensils to handle ready-to-eat foods.
10. All employees are required to follow the establishment’s Employee Health Policy regarding notification of management when experiencing listed symptoms, diagnoses, or exposures, and regarding required exclusions and restrictions.

**THE NEXT TWO PAGES PROVIDE A MODEL EMPLOYEE HEALTH POLICY AGREEMENT WHICH MAY BE USED AS A POSTING AND AS DOCUMENTATION OF EMPLOYEE TRAINING.**

## Food Employee Health Policy Agreement

*(Retail Food Establishment name)* is committed to ensuring the health and safety of our employees and customers, and complying with all health department regulations. The purpose of the Food Employee Health Policy is to protect consumers by ensuring that all food employees notify the **person-in-charge (PIC)**, when experiencing any listed condition so that proper steps are taken to prevent the transmission of foodborne illness.

### POLICY

All food employees experiencing any of the following symptoms shall report this to their PIC:

* Diarrhea
* Vomiting
* Jaundice
* Sore throat with fever
* Lesions (boils, infected wounds, burns) containing pus on the hand or wrist.

Food employees shall also notify their PIC whenever diagnosed by a healthcare provider with any of the following diseases that can be transmitted through food, or when they have had a significant exposure to any of these illnesses:

* Salmonellosis (non-typhoid *Salmonella*)
* *Salmonella typhi* (typhoid fever)
* Hepatitis A virus
* Shigellosis
* Norovirus
* *Escherichia coli* (EHEC or STEC)

Examples of significant exposures include:

* A member of the employee’s household is diagnosed with any of the above illnesses.
* The employee or a member of their household works in, or attended a conference or other setting where there has been a confirmed outbreak of one of the above illnesses.

### EXCLUSION, RESTRICTION, AND REINSTATEMENT (RETURN TO WORK)

If a food employee has diarrhea, vomiting, jaundice, or sore throat with fever; or if a food employee has, or has been exposed to Norovirus, *Salmonella typhi (typhoid fever),* non-typhoid Salmonellosis*, Shigella* spp. infection, *E. coli* infection (*Escherichia* coli O157:H7 or other EHEC/STEC infection), or Hepatitis A, the PIC will determine whether to **exclude**\* that employee, or to **restrict**\*\* that employee from food-handling duties. The PIC will refer to the FDA’s Employee Health and Personal Hygiene Handbook[[1]](#footnote-1) or specific guidance regarding excluding, restricting, and reinstating (return to work). In the case of most of the specified illnesses, an employee who has been excluded or restricted may not return to work until they have been asymptomatic for at least 24 hours, depending on the diagnosis. If an employee has been diagnosed with Hepatitis A, they must provide written clearance from a medical professional prior to returning to work.

If a food employee has an infected cut, wound, or lesion containing pus on the hand or wrist, that wound must be covered with an impermeable bandage and a single use glove. If not covered in this manner, the employee will be **restricted**\*\* from work.

*\*An excluded employee is not allowed to* come *to work.*

*\*\*A restricted employee’s duties will* not *include handling of food.*

### FOOD EMPLOYEE RESPONSIBILITY

All food employees shall follow the reporting requirements specified above involving symptoms, diagnoses and high-risk conditions. All food employees shall comply with any work restrictions or exclusions that are imposed upon them as required by the FDA Model Food Code. Compliance with this health policy, and with good hygienic practices, is vital to protecting the health and safety of our patrons.

### PIC RESPONSIBILITY

The PIC will:

1. Ensure that all food employees are informed and reminded of their responsibility to report to management certain symptoms or illnesses that may be transmitted through food; and
2. Take appropriate action as specified in the FDA Model Food Code including exclusion, restriction and/or monitoring of food employees who have reported certain symptoms, or who have been diagnosed with or had significant exposure to certain illnesses that may be transmitted through food.

I have received training on the Food Employee Health Policy, understand my responsibilities regarding the policy, and I will comply.

Employee Signature Date

## Special Process Employee Training Plan – Template

All personnel operating parts of the plan will be trained as specified in the HACCP Plan. Management will document the required training for each employee. As an essential, required part of HACCP-related training, food employee and supervisory training must address the food safety issues of concern.

1. Who is to be trained?
2. When does training occur? (Examples: new employee, annual, and quarterly talks on different food safety topics)
3. How is training documented?
4. What is covered in training? Must include relevant food safety issues, and training relevant to the procedures involved in the specialized process and proper corrective actions (those resulting from human error).

## HACCP Plan Verification and Maintenance – Template

### Verification Procedures - Routine

All monitoring records will be checked for accuracy and completeness prior to sale or service within 24 hours, or as prescribed by the HACCP plan. If discrepancies are noted, corrective action will be documented.

An essential element of routine verification of a HACCP process is the calibration of instruments used to make measurements to monitor critical limits. The following templates provide guidance for the most common monitoring instruments and procedures.

### Verifying Accuracy of Thermometers and Thermocouples:

Digital thermometers and probes will be checked for accuracy at least weekly (state your frequency) and when accuracy may be questionable, or when dropped or broken. Bimetallic (dial-type) thermometers are less stable than digital thermometers, and for this reason, their calibration should be verified no less than daily. All thermometers and probes will be checked for accuracy using an ice bath or a standard according to manufacturer’s recommendations and recorded on the Thermometer/Probe Accuracy Log. To check thermometer calibration using an ice bath, fill a glass with crushed ice; then add enough water to fill the gaps in the ice. Mix well for 30 seconds to a minute, then place the thermometer or thermocouple probe in the center of the ice slush without touching the sides or bottom to the container. Allow the reading to stabilize. Then record the observed temperature on the Thermometer Calibration Log. If the measured temperature is not within 32 +2 °F. (0 +1°C.), recalibrate according to manufacturer instructions, or replace the thermometer. The boiling point method should be used to check accuracy of thermometers that are used to measure cooking temperatures. In this method, the water must be at a rolling boil (212 +2 °F. or 100 +1°C.). Boiling point elevation correction[[2]](#footnote-2) should be made when appropriate and when required by the regulatory authority.

### Verifying Accuracy of Scales:

Scales used to weigh cure will be checked for accuracy each time a product is made. The scale will be checked for accuracy using a reference weight within the same range as the amount of cure to be weighed, according to manufacturer recommendations, and will be recorded on the Scale Accuracy Log. Observed weights for reference weights should agree with the true value to within +2% of the reference value. Scales must comply with any state or local certification requirements for weights and measures. Scales used for weighing curing salt should weigh accurately to two decimal places. It is essential that the scale be leveled using the leveling sight glass on the scale before each use. Scales should be cleaned after each use to prevent corrosion of the electronics by curing salt dust and must be maintained in a sanitary condition.

### Annual HACCP Plan Reverification and Maintenance

The HACCP plan and related records will be reviewed by the HACCP Team Leader at least annually and when significant modifications are proposed to ensure that procedures are accurate, working as intended, and in compliance with current regulations. A review of receiving, monitoring and training records will include an overview of corrective actions and routine verifications to identify weaknesses in procedures or policies. Adjustments are to be made when required, and retraining of staff must be provided as necessary.

If problems are identified by a team member (such as confusing or incorrect instructions), notify HACCP Team Leader so that the recommended change can be reviewed properly and implemented consistently. Any unapproved modifications to the HACCP plan, and unapproved changes to the procedures, equipment, food suppliers, or foods and ingredients used will invalidate the approval and may result in an uncontrolled food safety hazard.

Timely revisions are necessary to maintain compliance with state regulations and to ensure that HACCP procedures are effective and accurate. Certain situations require a special review:

1. Potential new hazards are identified that may be introduced into the process.
2. New ingredients are added, or when an ingredient supplier is changed.
3. The process steps or procedures are changed.
4. New or different processing equipment is introduced.
5. Production volume changes.
6. Personnel changes.
7. There are changes in the regulations.
8. Consumer complaints or illnesses are associated with a product from the process.
9. Patterns of deviations result in corrective actions.

Maintaining a record of review and revisions provides important documentation of the effective dates of procedures in force at any given time. This information is essential in the event of a food safety problem being traced to food processed using this HACCP process.

Revisions that do not change the process do not require re-approval from the regulatory authority. Changes that directly affect the process, such as changing suppliers, recipes, products, or the food preparation process, do require regulatory review and approval. Whenever the HACCP plan is revised, relevant training of HACCP team members is required; working copies of the previous version must be retracted and archived, and working copies of the new version are made available to the team. Archival original versions of the HACCP plan are maintained according to the retention schedule in the record-keeping policy.

## HACCP Plan Record Keeping

The **HACCP system** must include records that are current and maintained, and provided to the regulatory authority upon request. The **HACCP plan** submitted for regulatory approval must include blank copies of each **monitoring** record required by the plan, covering **monitoring** of **critical control points**, instrument calibrations, corrective actions, staff training, and maintenance and reassessment of the plan. **HACCP** records must demonstrate that the following are routinely employed and in compliance with the **approved** plan and with state regulations, as relevant:

* Procedures for **monitoring** the **critical control points**
* Results of **monitoring** of the **critical control points**
* **Verification** of the effectiveness of the operation or process,and
* Necessary corrective actions when a **critical limit** at a **critical control point** is not met

Documents such as supplier Letters of Guaranty and **validation** of critical **control** **measures** are permanent records and should be retained as long as the **HACCP** process is in use. Records for products of **HACCP** processes that have a short shelf life (such as the 7 days allowed for sous vide products), should be retained for at least six months, or as required by the regulatory authority. Records for products that have a long preparation process and/or shelf life should be retained for at least six months beyond the shelf life of the product batch.

Example Forms and **monitoring** logs are provided in Section 9. Electronic record-keeping systems may be an option your establishment could consider to reduce record-keeping labor. However, all electronic records should provide at least the same information identified in the example forms in Section 9. Additionally, electronic logs should:

* Secure, to prevent tampering with data entries;
* Provide automatic date and time stamping for data entries and management reviews;
* Be routinely backed up to prevent loss of data;
* Provide for documenting management review
* Provide an electronic audit trail.

Local jurisdictions may have additional requirements for electronic record-keeping systems.

**Batch Log: Preserving Fish by Hot Smoking**

Store Name:

Street Address:

City: State: Zip Code:

|  |  |
| --- | --- |
| **Date:** | **Product:** |
| **Recipe:** | **Initial Weight:** |

**BRINING: CCP 1**

|  |  |
| --- | --- |
| **Brining of Fish** | **Weight of Salt \_\_\_\_\_\_\_\_\_ lb. Amount of Water \_\_\_\_\_\_\_\_\_ gal.** **Brine Pre-chilled?** |
|  | **Date & Time in: Date & Time out** |
| **Critical Limit Met?** | **Yes** | **No** |
| **Corrective Action:** |  |
| **Staff Initials:** |  |

**SMOKE/DRY/COOK: CCP 2**

|  |  |
| --- | --- |
| **Drying Step** | **Time In: Time Out:**  |
| **Cooking Step:** | **°F. Final Weight:** |
| **Critical Limits Met?** | **Yes** | **No** |
| **Corrective Action:** |  |
| **Staff Initials:** |  |

**COOLING: CCP 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Cooling Parameters** | **Start Time:** | **Temp:** | °F |
| **First Check Time (< 2 hours):** |  | **Temp:** | °F |
| **Second Check Time (<4 hours of reaching 70):** |  | **Temp:** | °F |
| **Corrective Action:** |  |
| **Staff Initials:** |  |

**Labeling: CCP 4**

|  |  |  |
| --- | --- | --- |
| **Label Content Review** | **Required safe handling & storage instructions present** | **Correct use-by date is present** |
| **Corrective Actions:** |  |
| **Staff Initials:** |  | **Date:** |  |

**VERIFICATION:**

|  |  |  |
| --- | --- | --- |
| **All CCPs Met?** | **Yes** | **No** |
| **Corrective Actions:** |  |
| **Verified by:** |  | **Date:** |  |

## Refrigerator/Freezer Temperatures and Date Mark Check Log

Store Name:

Street Address:

City: State: Zip Code:

|  |
| --- |
| **Instructions**: The designated food establishment employee must record the location or description of holding unit, date, time, air temperature, corrective action, review of date marks, and initials on this Log daily. *When continuous electronic* monitoring *is required, the food worker monitoring temperatures indicates by signature that the electronic monitoring system has been examined for operation as required*. The designated supervisor must verify that foodservice workers have taken the required temperatures by visually monitoring food workers during their shift, and must review, initial, and date this log daily. This log will be maintained for a minimum of 6 months. |
| **Location/ Unit Description** | **Date** | **Time** | **Temp** | **Date Marks Checked** | **Corrective Action** | **Initials** | **Verified By** |
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## Corrective Action Log

Store Name:

Street Address:

City: State: Zip Code:

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CCP #** | **Date** | **Product** | **Problem** | **Disposition of Product** | **Corrective Actions** | **Person Responsible** | **Verified By/Date** | **Compliance Procedures****(Preventive Measures)** |
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## Thermometer Calibration Check Log

Store Name:

Street Address:

City: State: Zip Code:

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| **Instructions**: The designated food establishment employee(s) must record the calibration temperature and corrective action taken each time a thermometer is calibrated. Thermometers intended for measuring hot temperature items must be calibrated in hot water, while those used for cold temperatures must be calibrated in ice water. The designated supervisor must verify and initial that food establishment employees are using and calibrating thermometers properly by making visual observations of employee activities during hours of operation. This log should be maintained for a minimum of 6 months. |
| **Date** | **Time** | **Thermometer****ID#** | **Method Used****(Ice Slurry/ Boiling Point)** | **Thermometer****Reading** | **Accurate****(Yes /No)** | **Corrective Action** | **Initials** | **Verified By** |
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## Food Scale Accuracy Log

Store Name:

Street Address:

City: State: Zip Code:

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| **Instructions:** Scales used to weigh cure will be checked for accuracy each time a product is made. The scale will be checked for accuracy using a standard weight according to manufacturer’s recommendation and recorded on the Scale Accuracy Log. The designated supervisor must verify and initial that food establishment employees are verifying accuracy of scales by reviewing and signing this log. This log should be maintained for a minimum of 6 months. |
| **Date/Time** | **Food Scale****Identification** | **Standard****Weight** | **Scale****Reading** | **Accurate****Y/N** | **Corrective Action(s)** | **Staff Initial** | **Verified By (Initials)** |
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## Cleaning and Sanitizing Food Contact Surfaces Log

Store Name:

Street Address:

City: State: Zip Code:

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| **Instructions:** Food establishment employees will observe practices and procedures in accordance with the SSOP and corrective action taken, if applicable. The foodservice manager will verify that food establishment employees are following the SSOP properly by making visual observations of employee activities during all hours of operation and noting any corrective actions taken, or none taken if no violations for the day. The food establishment manager will review and initial the log on a weekly basis. Retain this log for a minimum of 1 year. |
| **Date** | **Observed Practices in Accordance with SSOP (Y/N)** | **If No, Violations Observed** | **Corrective Action** | **Initials** | **Manager Initials/Date** |
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## Employee Training Record

Store Name:

Street Address:

City: State: Zip Code:

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| --- |
| I have been provided training on the subject described above. I have read or re-read the relevant policies and procedures, and I have had any questions answered. I understand what is required and will comply with the requirements. |
| **Name** | **Initials** | **Title** |
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## HACCP Re-Verification and Maintenance Log

Store Name:

Street Address:

City: State: Zip Code:

|  |
| --- |
| **Instructions**: Each HACCP plan must be reviewed and re-verified at least annually to maintain regulatory compliance and to ensure that the plan is current and effective. Procedures, policies and all records related to the HACCP plan must be reviewed to identify weaknesses or needed corrections and updates. Special reviews prompted by changes in procedures, equipment, recipes, regulations, corrective actions, or supplier issues, may require revision of parts of the HACCP plan. Staff training related to revisions in the HACCP plan may be required. This log should be maintained for a minimum of 3 years. |
| **Manager Initials/Date** | **Revisions Required? Y/N** | **If Yes, Affected Section(s):** | **Reason** | **Regulatory Review Required? Y/N** | **Approved by Regulatory? Y/N** | **Old Version Retracted? Y/N** |
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1. <https://www.fda.gov/media/77065/download> [↑](#footnote-ref-1)
2. [www.asi.k-state.edu/doc/meat-science/thermometer-calibration-guide-2.pdf](file:///Users/paulabarbour/Downloads/www.asi.k-state.edu/doc/meat-science/thermometer-calibration-guide-2.pdf) [↑](#footnote-ref-2)