Writing a Food Safety Plan

Food service operators are required to develop, maintain, and follow written food handling procedures. These procedures are often referred to as food safety plans. The following handout is intended to assist operators in the development of these procedures.

Contents

Why are Food Safety Plans Beneficial?

A food safety plan contains written procedures that staff use to safely prepare food. The benefits of the plan are to:

- reduce the risk of a foodborne illness
- ensure that food is handled in a consistent manner
- assist with employee training
- help reduce food waste in the establishment
- allow staff and management to control and maintain food safety

Food Safety Plan Components

1. Potentially Hazardous Foods

Describe the procedures to follow when handling any potentially hazardous foods that are served in your establishment. **Potentially hazardous foods** are those that are capable of supporting the growth of disease-causing microorganisms or the production of toxins. These are usually foods that are considered perishable. Examples:

- Foods of animal origin (meat, fish, dairy, eggs, etc.)
- Foods of plant origin (vegetables, fruits, etc.) that have been cut or cooked
- Raw seed sprouts (alfalfa, bean sprouts, radish sprouts, etc.)
- Cooked starches (pasta, rice, etc.)
- Soybean proteins (soy milk, tofu, etc.)

2. Critical Control Points

For each potentially hazardous menu item, create a food safety plan using a step by step procedure that identifies the critical control points.

Critical Control Points (Critical Steps): A Critical Control Point (CCP) is a step in the preparation process where a food safety hazard can be controlled. Subsequent steps in the preparation process will not eliminate the hazard if it is not controlled at this point. Some items will have more than one CPP. Clearly identify these steps for each potentially hazardous food item. Examples of CCPs:

- receiving
- storage
- preparation
- cooking
- hot holding
- cooling
- reheating

Not all steps are always considered critical. Some may be considered critical steps for some menu items, but not other menu items. It depends on how the item is prepared.

3. Critical Limits

Critical Limit (Food Safety Standard): A Critical Limit is a measurable standard or limit that must be met to control the food safety hazard at a Critical Control Point. Examples:

- cold storage temperature of 4°C or less
- final cook temperature of 74°C
- hot holding temperature of 60°C or more
- cooling food from 60ºC to 20°C in 2 hours and 20°C to 4°C in 4 hours

4. Monitoring the Steps

Describe how you will ensure that the critical limits are adhered to. Monitoring can include measuring an internal temperature, visually assessing food, or observing practices.

5. Taking Corrective Action

Determine action(s) required when a critical limit is not met. Some examples:

cook the product longer   reheat the product   discard the product

6. Putting the Components in a Template

An example plan is shown below that outlines typical steps in the food preparation process. Each step shows the critical control points, potential hazards, critical limits, monitoring procedures and corrective actions.

Critical Control Points	Potential Hazards	Critical Limits (Food Safety Standards)	Monitoring Procedures	Corrective Actions
Receiving	Contamination of food Growth of pathogens	Food is obtained from approved sources	Verify with supplier if in doubt	Return unsuitable food to the supplier
		Refrigerated food temperature is 4°C or less upon receipt	Check temperature of food and record	Return unsuitable food to the supplier
		Food is wholesome, free of pests; packaging is undamaged	Visually inspect food and packaging	Return unsuitable food to the supplier
Storage	Growth of pathogens	Perishable food is stored at **4°C or less**	Check temperature of food/cooler and record	Adjust temperature setting or service the unit Move food to alternate storage unit; Discard food held above 4°C for more than 2 hours
		Store frozen food at **-18°C or less**	Check temperature of food/cooler and record	
		Thaw frozen food: • In cooler/refrigerator • Under cold running water • In microwave, just prior to use	Observe thawing practice	Modify practices; discard contaminated food
Preparaton	Contamination of food	Sanitize food contact surfaces and equipment prior to use	Observe practices	Modify practices; discard contaminated food

Critical Control Points	Potential Hazards	Critical Limits (Food Safety Standards)	Monitoring Procedures	Corrective Actions
		Practice good employee hygiene: • No ill employees • Frequent hand washing • Cuts, burns and abrasions treated and covered • Clean clothing worn • Hair restrained • No jewelry • Clean fingernails	Observe Staff	Require rewashing of hands if necessary Ill workers to be assigned non-food handling duties or excluded from work
Cooking	Survival of pathogens	Cook food to an internal temperature of: • **74°C** • Other established safe cooking temperature*	Check internal temperature at the thickest part of the food	Continue cooking until the required internal food temperature is reached
Hot Holding	Growth of pathogens	Hold potentially hazardous foods at or above **60°C**	Check internal temperature at the thickest part of the food and record temperature	Adjust temperature setting or service unit; Move food to alternate storage unit; Discard food held above 4°C for more than 2 hours
Cooling	Growth of pathogens	Cool foods: **60°C to 20°C** in **2 hours**; then from **20°C to 4°C** in **4 hours**; Total cooling time should be **6 hours or less** Cooling methods: • Use shallow storage containers • Use an ice bath • Use an ice wand • Wait until food is cold before covering	Check internal temperature of the food at various times during cooling; use a timer to ensure that food is cooled within the appropriate timeframe	Discard food held above 21°C but less than 60°C for more than 2 hours Discard food held above 4°C but less than 21°C for more than 4 hours
Reheating	Survival of pathogens	Reheat foods to **74°C** within 2 hours	Check internal temperature at the thickest part of the food	Continue cooking until the required internal food temperature is reached Discard food that takes more than 2 hours to reach **74°C**

*See resources for further information on alternative cooking temperatures

Types of Food Safety Plans

There are three types of food safety plans that can be used to control food safety hazards in your establishment, recipe, flow chart and process based.

Recipe Based Food Safety Plans
Recipe based food safety plans incorporate the food safety plan components into a standard recipe. Additional information, such as sanitation instructions can also be added if necessary.

See *Appendix A* for an example using the Beef Stew Recipe in the *Ensuring Food Safety* book.

Flowchart Based Food Safety Plans
Flowchart based food safety plans are often used in food manufacturing. They provide excellent detail, but a separate flowchart is required for each item. This can be a challenge in establishments where the menu changes on a regular basis.

An example of the Beef Stew recipe using a flow chart based food safety plan is shown in *Appendix B*. A template is included at the end of this handout.

Process Based Food Safety Plans
The process based food safety plan involves grouping together menu items that are processed in the same way. One plan can be applied to a number of different menu items. Some of the common processes used to prepare foods include:

- **No Cook**: items such as salads, sandwiches
- **Cook – Serve**: items such as steaks, burgers, chicken strips
- **Cook – Chill – Serve**: items such as potato salad, chicken salad
- **Cook – Chill – Reheat – Serve**: items such as soups, pasta sauce

Process based food safety plan templates are included at the end of this handout.

Writing a Food Safety Plan

Choose the type of plan that is the easiest for you to use. Regardless of the style, the process for developing the plan is the same.

1. Review your menu and identify all of the potentially hazardous items
2. For each item identify the:
    - **critical control points**
    - **critical limit(s)** for each critical control point
    - **monitoring** steps required for each critical limit
    - **corrective actions** required if a critical limit is not met
3. include any other information necessary to control food safety hazards
4. Once you have the plan completed, use the checklist:

Food Safety Plan Checklist
- ☐ Does the food safety plan include all the potentially hazardous foods?
- ☐ Does the plan content match the menu?
- ☐ Are the CCPs included and appear correct?

- ☐ Are the critical limits included, measurable, and specific?
- ☐ Are the monitoring steps included in the food safety plan and are they reasonable?
- ☐ Do employees have the tools needed to monitor?
- ☐ Are the corrective actions outlined for each CCP and are they appropriate to control the hazard?

5. Fill in the templates and log sheets for your plan. There are various types provided in *Appendix C*. You only need to prepare one type of food safety plan.

Using Your Food Safety Plan

Train Your Staff
Once your food safety plan is complete the next step is to put it into action. Train your staff to use the plan plan and identify those who are responsible for using it.

Measure Food & EquipmentTemperatures
Use a calibrated thermometer to measure food temperatures. The following table suggests testing frequencies for different steps:

Storage & Handling	Testing Frequency	Comments
Coolers	1x per day or more	Regularly check built in thermometers against a 2nd thermometer known to be accurate (i.e recently calibrated)
Cold-holding	1x per day or more	Check cooling inserts and foods held on ice
Hot-holding	1x per day or more	Randomly check 1 food item in each holding unit 2 hours after commencement of hot-holding
Cooling	Every 2-3 months	Check cooling methods for each food when Food Safety Plan is first started*
Cooking/Re-heating	1x per month	Check cooking and reheating methods for each food item when Food Safety Plan is first implemented*

* If the recipe or volume of a food is altered, cooking & cooling methods need to be re-tested

If a problem is discovered, take immediate action to correct it.

We recommend recording both temperatures and any corrective actions taken. Log sheets are included at the end of this handout to assist with record keeping. We suggest keeping temperature records for three months.

Review the food safety plan periodically to ensure that it is complete and matches the menu.

Resources

1. Ensuring Food Safety-Writing Your Own Food Safety Plan the HACCP Way, BCCDC (2009): http://www.bccdc.ca/NR/rdonlyres/1A068D5D-3350-4D1C-A356-D8C6D62B7DB9/0/EnsuringFoodSafetyHACCPWay.pdf
2. Food Retail and Food Services Code, CFISIG (2004): http://foodsafe.ca/resources/Food_Services_Code2004.pdf

3. Managing Food Safety: A Manual for the Voluntary Use of HACCP Principles for Operators of Food Service and Retail Establishments, FDA (2006): http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006811.htm

Appendix A – Beef Stew Recipe Based Food Safety Plan

Beef Stew Recipe Based Food Safety Plan

Ingredients	Weights and Measures
Stewing beef (pre-cooked)	2.5 kilograms
Beef stew base, Beef consommé, Beef gravy	1 can (each)
Vegetables (frozen)	2 packages
Seasoning	1 packet
Water	5 litres

	PREPARING
	1. Pour beef stew base, beef consommé, and beef gravy into stockpot. Add water and seasoning. Stir with wire whisk until all seasoning is dissolved.
	COOKING
	2. Preheat stove. Begin heating beef stew mix.
	3. Break up any clumps in the frozen vegetables. Add to the beef stew mix. Stir with long-handled spoon.
Critical Step	4. Add cooked stewing beef and stir. **Continue heating beef stew until 74°C (165°F) or hotter is reached for at least 15 seconds.** Simmer for 30 minutes.
	SERVING AND HOLDING
	5. Serve immediately, or
Critical Step	6. **Hold beef stew at 60°C (140°F) or hotter in hot hold unit, and cover if possible. Do not mix new product with old.** *Reheat to 74°C (165°F) if stew is less than 60°C (140°F) for 2 hours or less. If more than 2 hours, discard.*
	COOLING
Critical Step	7. Cool in shallow pans with a product depth not to exceed 2 inches. **Product temperature must reach 20°C (70°F) within 2 hours and then reach 4°C (40°F) within 4 hours (6 hours total).** Stir frequently. *Discard product that is not cooled to 4°C in 6 hours.*
	8. Store at a product temperature of 4°C (40°F) or colder in the cooler. Cover.
	REHEATING
Critical Step	9. **Reheat beef stew to a product temperature of 74°C (165°F) or hotter for at least 15 seconds within 2 hours - one time only.**

Sanitation Instructions:

Measure all temperatures with a cleaned and sanitized thermometer. Wash hands before handling food, after handling raw foods, and after any activity that may contaminate hands. Wash, rinse, and sanitize all equipment and utensils before and after use. Return all ingredients to refrigerated storage if preparation is delayed or interrupted.

Appendix B - Beef Stew Flowchart Style Food Safety Plan

Flowchart	Potential Hazard	CCP	Critical Limits	Monitoring Steps	Corrective Actions
Receiving ⇓	Contamination; Growth of pathogens	No	PHFs must be below 4°C (40°F).	Check temperature Visual inspection.	*Reject load if above 4°C (40°F), or if contamination is seen.*
Refrigeration ⇓	Growth of pathogens	No	Maintain below 4°C (40°F).	Check food and air temperature every 4 hours.	*Lower the cooler temperature setting.*
Preparing ⇓	Contamination	No	Use of clean utensils.	Ensure all utensils and mixing pots are clean before use.	*Inform dishwasher if any utensils/ pots are not clean.*
Cooking ⇓	Pathogen survival	**Yes**	**Heat to 74°C (165°F) or hotter and hold for at least 15 seconds**	Check stew temperature (sanitized thermometer) before serving/ holding.	*Continue heating until 74°C (165°F) or hotter for 15 seconds.*
Holding ⇓	Growth of pathogens	**Yes**	**Minimum temperature of 60°C (140°F)**	Check stew temperature in hot hold unit every 2 hours (sanitized thermometer).	*Reheat to 74°C (165°F) if stew is less than 60°C (140°F) for 2 hours or less. If more than 2 hours, discard.*
Cooling ⇓	Growth of pathogens	**Yes**	**60°C (140°F) to 20°C (70°F) within 2 hours AND then 20°C (70°F) to 4°C (40°F) within 4 hours**	Check temperature (sanitized thermometer) of cooling stew.	*Discard if time/ temperature standards not met.*
Reheating	Pathogen survival	**Yes**	**Heat to 74°C (165°F) or hotter and hold for at least 15 seconds.** Heating must be done within 2 hours	Check temperature (sanitized thermometer) of heating stew every hour.	*Discard if time/ temperature standards not met.*

Appendix C: Food Safety Plan Templates and Log Sheets

Food Safety Plan Templates

- Single Menu Item Template
- "No – Cook" Plan - for potentially hazardous foods / menu items
- "Cook – (Hold) - Serve" Plan - for potentially hazardous foods / menu items
- "Cook – (Hold) - Serve" Plan with Leftovers - for potentially hazardous foods / menu items
- "Cook – Chill - Serve" Plan - for potentially hazardous foods / menu items
- "Cook – Chill - Reheat - Serve" Plan - for potentially hazardous foods / menu items

Log Sheets
- Temperature Monitoring Log (Multiple Units)
- Temperature Monitoring Log (Single Unit with Corrective Action)
- Cooling Log

Menu Item: _____

Flowchart	Potential Hazard	CCP	Critical Limits	Monitoring Steps	Corrective Actions

"No – Cook" Plan - for potentially hazardous foods / menu items

Step	Critical Control Point	Critical Limit	Monitoring Method	Corrective Action
Receiving ⇓	**Yes**	**4 °C max., good condition**	check food temp	Reject food
Storing ⇓	**Yes**	**4 °C max., good condition**	check cooler & food temp daily	Adjust cooler, discard food if above 4 °C for more than 2 hrs
Preparation ⇓	**Yes**	**Clean hands; use of clean/sanitized equipment*; no cross-contamination**	observe practices	Modify practices; discard food if contamination occurs
Cold Holding ⇓	**Yes**	**4 °C maximum**	check cooler & food temp	Adjust cooler, discard food if above 4 °C for more than 2 hrs

*Sanitation Steps: clean and sanitize food contact surfaces and display units after use. Clean and sanitize cooler surfaces weekly or more often, as necessary. See Sanitation Plan for more details.

This Plan applies to the following menu items:

_____

_____

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"Cook – (Hold) - Serve" Plan - for potentially hazardous foods / menu items

Step	Critical Control Point	Critical Limit	Monitoring Method	Corrective Action
Receiving ⇓	No	4 °C max., good condition	check food temp	Reject food
Storing ⇓	No	4 °C max., good condition	check cooler & food temp daily	Adjust cooler, discard food if above 4 °C for more than 2 hrs
Preparation ⇓	No	Good hygiene; use of clean/sanitized equipment	observe practices	Modify practices; discard food if contamination occurs
Cooking ⇓	**Yes**	**74 °C min.** **or proper temp for food type**	check food temp or use visual indicator	Adjust cooking time and/or temperature
Hot Holding ⇓	**Yes**	**60 °C minimum**	check food temp	Discard food after 2 hours

This Plan applies to the following menu items:

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"Cook – (Hold) - Serve" Plan with Leftovers - for potentially hazardous foods / menu items

Step	Critical Control Point	Critical Limit	Monitoring Method	Corrective Action
Receiving ⇓	No	4 °C max., good condition	check food temp	Reject food
Storing ⇓	No	4 °C max., good condition	check cooler & food temp daily	Adjust cooler, discard food if above 4 °C for more than 2 hrs
Preparation ⇓	No	Good hygiene; use of clean/sanitized equipment	observe practices	Modify practices; discard food if contamination occurs
Cooking ⇓	**Yes**	**74 °C min.** **or proper temp for food type**	check food temp or use visual indicator	Adjust cooking time and/or temperature
Hot Holding ⇓	**Yes**	**60 °C minimum**	check food temp	Discard food after 2 hours

If leftovers, then:

Step	Critical Control Point	Critical Limit	Monitoring Method	Corrective Action
Cooling ⇓	**Yes**	**cool quickly to 20 °C in 2 hrs & to 4°C in 4 hrs**	check food temp in warmest spot at 2 and 4 hours	Discard Food; alter cooling methods
Reheating* ⇓	**Yes**	**quickly to 74 °C**	check food temp	Adjust reheating time and/or temperature
Hot Holding ⇓	**Yes**	**60 °C minimum**	check food temp	Discard if food less than 60°C for more than 2 hrs
Discard				

This Plan applies to the following menu items:

"Cook – Chill - Serve" Plan - for potentially hazardous foods / menu items

Step	Critical Control Point	Critical Limit	Monitoring Method	Corrective Action
Receiving ⇓	No	4 °C max., good condition	check food temp	Reject food
Storing ⇓	No	4 °C max., good condition	check cooler & food temp daily	Adjust cooler, discard food if above 4 °C for more than 2 hrs
Preparation ⇓	No	good hygiene; use of clean/sanitized equipment	observe practices	Modify practices; discard food if contamination occurs
Cooking ⇓	**Yes**	**74 °C min. (or proper temp for food type)**	check food temp or use visual indicator	Adjust cooking time and/or temperature
Cooling ⇓	**Yes**	**cool quickly to 20 °C in 2 hrs & to 4 °C in 4 hrs**	check food temp in warmest spot at 2 and 4 hours	Discard Food; alter cooling methods
Preparation ⇓	**Yes**	**Clean hand/gloves; clean equipment; no cross-contamination**	observe practices	Modify practices
Cold Storage ⇓	**Yes**	**4 °C maximum**	check food temp	Discard if food less than 60°C for more than 2 hrs

This Plan applies to the following menu items:

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"Cook – Chill - Reheat - Serve" Plan - for potentially hazardous foods / menu items

Step	Critical Control Point	Critical Limit	Monitoring Method	Corrective Action
Receiving ⇓	No	4 °C max., good condition	check food temp	Reject food
Storing ⇓	No	4 °C max., good condition	check cooler & food temp daily	Adjust cooler, discard food if above 4 °C for more than 2 hrs
Preparation ⇓	No	good hygiene; use of clean/sanitized equipment	observe practices	Modify practices; discard food if contamination occurs
Cooking ⇓	**Yes**	**74 °C min. (or proper temp for food type)**	check food temp or use visual indicator	Adjust cooking time and/or temperature
Cooling ⇓	**Yes**	**cool quickly to 20 °C in 2 hrs & to 4°C in 4 hrs**	check food temp in warmest spot at 2 and 4 hours	Discard Food; alter cooling methods
Reheating* ⇓	**Yes**	**quickly to 74 °C**	check food temp	Adjust reheating time and/or temperature
Hot Holding ⇓	**Yes**	**60 °C minimum**	check food temp	Discard if food less than 60°C for more than 2 hrs

Note:
 Ensure leftovers are reheated only once – remaining product to be discarded. Do not mix leftovers with fresh foods.

This Plan applies to the following menu items:

_____

_____

_____

_____

Temperature Monitoring Log (Multiple Units)

Month: _____

Unit														
Date	°C	initials	°C	initials	°C	initials	°C	initials	°C	initials	°C	initials	°C	initials
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
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18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														
31														

Monitoring:	**Corrective Action:**
Required temperatures are as follows:	Apply following action as appropriate:
- coolers: at or below 4°C - freezers: at or below 18°C - reheat/cook: above 74°C or as per food safety plan - hot holding: above 60°C	- Adjust temperature setting - Have unit serviced - Move food to alternate storage unit - Discard food held above 4°C for more than 2 hours

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Temperature Monitoring Log (Single Unit with Corrective Action)

Month: _____

Unit			
Date	°C	initials	Corrective Action
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
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18			
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21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Monitoring:	**Corrective Action:**
Required temperatures are as follows:	Apply following action as appropriate:
• coolers: at or below 4°C • freezers: at or below 18°C • reheat/cook: above 74°C or as per food safety plan • hot holding: above 60°C	• Adjust temperature setting • Have unit serviced • Move food to alternate storage unit • Discard food held above 4°C for more than 2 hours

Cooling Log

Date	Food Item	Temperature (°C)			Total cooling complete in 6 hours or less (Y/N)	Corrective Actions (if total cooling not complete in 6 hours or less)
		Initial	**After 2 hours**	**After 6 hours**		

Cooling Procedure
Cool foods as follows:

60°C to 20°C in **2 hours**; then from **20°C to 4°C** in **4 hours**;
(Total cooling time should be **6 hours or less**)

Good practices include:
- Shallow storage containers
- Use an ice bath
- Use an ice wand

Wait until food is cold before covering

Monitoring:
- Check cooling methods every 2-3 months or when Food Safety Plan is first started

Corrective Actions:
- Discard food held above 20°C but less than 60°C for more than 2 hours
- Discard food held above 4°C but at or below 20°C for more than 4 hours