

# **Emergency Action Plan for Retail Food Establishments**

## **Second Edition**

**Practical guidance for retail grocery and food service establishments to plan and respond to emergency situations that could impact food safety and facility operations.**

Original Produced By:  
Emergency Preparedness Committee of Council II  
2004-2006 Conference for Food Protection

First Revision By:  
Emergency Preparedness and Response Committee of Council II  
2006-2008 Conference for Food Protection

Current Edition By:  
Emergency Action Plan Committee of Council III  
2012-2014 Conference for Food Protection

## Table of Contents

	<b>Page</b>
<b>Disclaimer</b>	<b>3</b>
<b>Preface</b>	<b>4</b>
<b>Introduction</b>	<b>4</b>
<b>Permit Holder Responsibilities and Responding to an Imminent Health Hazard</b>	<b>5</b>
<b>Planning for Response to an Emergency</b>	<b>7</b>
Developing a Written Food Safety Emergency Plan	7
<b>Emergency Guidance</b>	
<b>Interruption of Electrical Service</b>	<b>10</b>
Planning	10
Assessment	12
Business Continuity	12
Time/Temperature Chart for Refrigerated TCS Food During A Power Outage	17
Recovery	21
<b>Interruption of Water Service</b>	<b>23</b>
Planning	23
Assessment	24
Business Continuity	25
Recovery	28
<b>Contaminated Water Supply (Biological)</b>	<b>30</b>
Planning	30
Assessment	30
Business Continuity	30
Recovery	34
<b>Sewage Backup</b>	<b>36</b>
Planning	36
Assessment	37
Business Continuity	38
Recovery	41
<b>Floods</b>	<b>46</b>
Planning	46
Assessment	47
Business Continuity	48
Recovery	49
<b>Fire</b>	<b>55</b>
Planning	55
Assessment	55
Business Continuity	57
Recovery	57

## Disclaimer

The guidance in this document does not create or confer any rights for or on any person and does not operate to bind public health officials or the public. An alternative approach may be utilized if the approach satisfies the requirements of the applicable statutes and regulations within a government's jurisdiction. Whether this guidance or an alternative procedure is utilized, contact the state or local public health authority responsible prior to implementation.

This document includes guidance for several types of emergencies that a food establishment may encounter and is designed as an aid to operators of retail food stores and food service establishments (for example, bakeries, bars, cafeterias, camps, child and adult day care providers, commissaries, convenience stores, grocery stores, interstate conveyances, meal services for home-bound persons, mobile food carts, restaurants, and vending machine operators). This is a diverse set of establishments, which includes both very large and very small entities.

During an emergency or natural disaster it will be critical for individuals to obtain certain necessities such as canned foods, bottled water, batteries, flashlights, coolers, etc. This guidance document is designed to help food establishments know the steps necessary to take to ensure the items they sell will not endanger the public's health.

Following a natural disaster there are potential health concerns that can be created by the disruptions caused by the disaster. This publication provides food safety suggestions and information for retail and foodservice establishments continuing to operate or resuming business in the event of natural or other disasters. Persons-in-charge (PICs) of a food establishment should conduct a complete self-inspection to ensure that normal operations can be continued or resumed safely and without compromising food safety. Establishments required to cease operations in an emergency should not re-open until authorization is granted by the local or state regulatory authority. Other resources, not included here, are available for guidance on handling other emergencies such as those caused by infectious disease agents, tampering and intentional acts of terrorism.

---

## **Preface**

This document was created by the 2012 Conference for Food Protection's Emergency Action Plan Committee (EAP). It is replacing the document presented at the 2008 Conference for Food Protection's biennial meeting entitled *Emergency Action Plan for Retail Food Establishments*.

This 2014 version was extensively reformatted and several sections were deleted from the 2008 version. Topics such as intentional contamination and foodborne illness were deleted since these topics are covered extensively in other literature and government resources. This manual is dedicated to events more likely to be caused by nature.

This document also has an expanded section which discusses in detail when product may be sold even though it may have been out of temperature control for a limited time frame due to a power outage.

## **Introduction**

All retail food establishments are vulnerable to a potential emergency or disaster that could impact the safety of the food and products they sell or serve to consumers. Yet, in times of crises, these facilities can also serve the community and provide valuable resources. Working together, the food industry and regulatory agencies have developed this Guidance to assist in planning for and managing various emergencies.

Emergencies are usually unpredicted events that disrupt our lives and businesses. They often develop quickly without prior warning, affecting a limited geographic area, location or population. Emergencies can be both natural and man-made (or more accurately, "man-caused"). Examples of emergencies include fire, loss of power or interruption in water service. Disasters are more typically events that have the potential to cause loss of lives, widespread destruction of property, infrastructure disruption, and are often, but not always, preceded by warning notices. Examples of disasters include hurricanes, floods or storms.

For purposes of this Guidance, we refer to all events as emergencies even though they may be disasters. Although the type, severity and circumstances of an emergency will influence decisions regarding food safety, this Guidance provides practical information to help plan for, respond to, and recover from various emergencies.

Even though this Emergency Action Plan for Retail Food Establishments, Second Edition provides comprehensive information in preparation for and/or involvement in emergency situations, these documents are not intended to replace pre-existing local, state or federal regulations or procedures. Retail Food Establishments should consider using this emergency guidance document to compare existing procedures, fill in gaps and update site-specific procedures, create procedures where they don't exist and train staff.

## **Permit Holder Responsibilities and Responding to an Imminent Health Hazard**

One of the first things that must be done in an emergency is to determine if there is an imminent health hazard. According to the FDA Food Code definition:

**"Imminent health hazard"** means a significant threat or danger to health that is considered to exist when there is evidence sufficient to show that a product, practice, circumstance, or event creates a situation that requires immediate correction or cessation of operation to prevent injury based on:

- (1) The number of potential injuries, and
- (2) The nature, severity, and duration of the anticipated injury.

Further, the Food Code states:

### **8-404.11 Ceasing Operations and Reporting.**

(A) Except as specified in ¶ (B) of this section, a PERMIT HOLDER shall immediately discontinue operations and notify the REGULATORY AUTHORITY if an IMMINENT HEALTH HAZARD may exist because of an emergency such as a fire, flood, extended interruption of electrical or water service, SEWAGE backup, misuse of POISONOUS OR TOXIC MATERIALS, onset of an apparent foodborne illness outbreak, gross insanitary occurrence or condition, or other circumstance that may endanger public health.

(B) *A PERMIT HOLDER need not discontinue operations in an area of an establishment that is unaffected by the IMMINENT HEALTH HAZARD.*

### **8-404.12 Resumption of Operations.**

If operations are discontinued as specified in Food Code § 8-404.11 or otherwise according to law, the PERMIT HOLDER must, when required, obtain approval from the REGULATORY AUTHORITY before resuming operations.

## **Localized Emergency or Event**

When an emergency event impacts a single facility or operation, it is recommended that the permit holder take the following action:

1. Conduct an evaluation of the operation, as it relates to the emergency situation, to determine if a safe operation can be maintained in accordance with applicable regulations.
2. Discontinue operation at the facility or in affected areas of the establishment if a safe food operation cannot be maintained using appropriate emergency procedures.

3. If a safe food operation can be assured, the establishment can remain open provided the establishments' emergency plan is followed or with the approval of the Regulatory Authority.
4. Notify the Regulatory Authority where appropriate or if there is an imminent health hazard and discuss emergency operating procedures that will be used.
5. A food establishment or an area within the facility that was ordered to cease operations due to an imminent health hazard may not re-open until authorization has been granted by the Regulatory Authority.

### **Widespread Emergency**

Some emergencies may impact multiple facilities over a larger geographic area. During such an event, it is recommended that the same procedures listed under a localized event be followed for each establishment. A widespread event may make it difficult to reach the Regulatory Authority; therefore, the permit holder should ensure the emergency plan is followed and if appropriate, notify appropriate authorities of an imminent health hazard as soon as possible. Close the establishment if a safe operation cannot be assured.

### **Verification**

Food safety hoaxes are not uncommon. The permit holder or other designated person should verify the source of information before they take any action. When ordered to cease operations, a food establishment should verify that the order came from the appropriate Regulatory Authority. Likewise, a utility company may notify a food establishment of a temporary disruption affecting electrical power or water supply for repairs or other service. Such information should be verified with utility company officials and when possible arrangements for such disruptions should be made in advance.

## **Planning for Response to an Emergency**

It is important to plan ahead and be prepared for emergencies. You should consider the type of hazard(s) for which your business is most vulnerable and take precautions to minimize the impact of such occurrences. A written emergency plan can help ensure that emergency management efforts will better protect consumers and workers, and minimize the impact on your business and the community.

A food establishment owner, manager or the person-in-charge (PIC) is responsible for conducting both initial and ongoing assessments to ensure consistent compliance with food safety requirements. The owner, manager, PIC and other key employees should know where written procedures are located. They should also be trained on the actions to be taken as outlined in the establishments emergency response procedures.

Consider discussing your emergency plan with the Regulatory Authority. Emergency action plans should be available on-site for review. In some cases, the Regulatory Authority may want to pre-approve your plan.

Following is a generic outline of the types of information you should consider including in your emergency plan. In addition, we have included specific details for planning and implementing emergency procedures relevant to the emergency situations outlined in this guide.

### **Developing a Written Food Safety Emergency Plan**

The written food safety plan includes the steps you will take during an emergency. Remember that there may be regulations/ordinances that apply and consultation with local regulators may be appropriate. When managing Time/Temperature Control for Safety (TCS) food during an emergency, the facility must have a written plan prepared in advance. This plan should be maintained at the facility and available to the Regulatory Authority upon request.

Consider incorporating the following information in your plan:

People:

1. Identify the person(s) who have responsibility for implementing the plan.
2. Identify people/positions that are “critical” and what tasks must be performed.
3. Maintain a current list of emergency contacts. In addition to updating contact information for people within your company, include information for those who can help with the emergency such as utility companies (water, power, sewer, gas, etc.), garbage hauling service, dry and frozen ice suppliers, refrigerated trucking companies, food warehouses, septic tank pumping services, local and state health departments, fire, police, state emergency management agencies, emergency broadcast station frequency numbers and other pertinent regulatory authorities, etc.

4. Remember that computers and phones may not be operable and alternative communication methods may be necessary.

#### Equipment:

1. Identify the equipment and supplies needed. This may include large items such as generators and refrigerated trucks.
2. List items needed to perform tasks such as thermometers, insulated covers, caution tape, certain types of cleaning supplies, hand hygiene chemicals, etc.
3. List any necessary personal protective equipment (PPE) such as protective clothing, goggles or gloves needed to protect employees from potential hazards.
4. Consider having Emergency Kits available for different types of emergencies such as a kit for fire response, power outages, etc.

#### Menu:

1. Prepare an “emergency menu” in advance including a reduced number of recipes for food items that require limited preparation.

#### Instructions for Performing Tasks:

1. Provide detailed step-by-step procedures for performing each task. For example, explain how to calibrate equipment, how to take temperatures, how to clean spills, etc. These can be written in the form of a standard operating procedure (SOP).
2. Explain how, when and where the task will be performed.

#### Monitoring:

1. Identify what food units, holding cases and equipment will be monitored or what food products will be checked.
2. Detail how frequently the task will be performed (hourly, daily, etc.).
3. Explain what methods will be used and the tools needed (thermometers, etc.) to perform monitoring tasks.
4. Include details regarding who will perform the monitoring.
5. Identify what records need to be kept.
6. Provide copies of the reporting forms, data logs and checklists that will be used to record the data and information.
7. Procedures for monitoring temperatures of TCS food should ensure the warmest portion of the food is checked unless an ambient air temperature thermometer is in place and monitored to ensure the safety of the food. When monitoring refrigerated cases, the temperature should be measured in the part of the unit where food temperatures will be the warmest.

#### Waste Disposal

1. Determine how you will handle waste, including discarded food.
2. Consider the likelihood that waste disposal services may be interrupted or erratic.



3. Include method for handling small volumes of food that have been denatured or destroyed before placing in an outside refuse bin (closed, sealed container). Consideration will also need to be made for large volumes of food refuse that will have to be held and transported to a licensed landfill whenever pickup service is available.
4. Contact your disposal company to pre-plan for emergencies; when possible, have additional waste disposal units delivered onsite.

## **Interruption of Electrical Service**

*When there is an interruption of electrical service, it is recommended that the permit holder note the date and time of the event. The PIC should assess the situation. Brief interruptions that do not impact food safety may not require emergency procedures. When there is an extended loss of power it is recommended that the PIC implement emergency procedures. Immediately discontinue operation if a safe operation cannot be maintained or if food safety cannot be assured using an alternative procedure. If there is a significant threat or danger to health, then an Imminent Health Hazard may exist and the permit holder should immediately discontinue operations and notify the Regulatory Authority. Consider discussing your emergency plan with the Regulatory Authority. Emergency action plans should be available on-site for review. In some cases, the Regulatory Authority may want to pre-approve your plan.*

### **I. Planning for Response to a Power Outage Emergency**

Power outages are one of the most common emergencies that impact food establishment operations. Power outages may be short, lasting only minutes to a few hours, but in some cases, the loss of power may continue for several days. Responding to short term or extended loss of power will require careful planning. Determining whether TCS foods are safe to hold, sell or serve will require a detailed plan for how you will monitor temperatures and make disposition decisions on the safety of TCS food.

Your plan should include specific details on how temperatures are to be taken, where to take them and the frequency of monitoring. During a power outage, the temperatures of TCS food must be recorded. In developing your emergency plan, think about the decisions you will have to make at the time of the power outage. Asking these questions now and addressing them in your plan will minimize confusion and uncertainty when a power emergency occurs.

Examples of questions to incorporate into your plan include:

1. Who is responsible for calling the power company and determining how long there will be a loss of power?
2. Will the food establishment try to remain open during the outage?
  - a. Who will make the decision?
  - b. Will certain areas of the operation remain open, for example, departments that don't need refrigeration?
  - c. Will establishment remain open and continue to sell items such as shelf stable foods, bottled water, non-food items such as flashlights, batteries and coolers that would be important for the community during large scale events?
3. Which departments will close and which refrigerated cases will be emptied or covered first?

4. Remember that opening refrigeration equipment doors will cause the temperature in the unit to rise and the food to warm more quickly.
  - a. How will loss of temperature be minimized for food product held under refrigeration?
  - b. How will monitoring and recording of a refrigeration unit and its product temperatures be conducted?
  - c. Will power generators keep electronic temperature recording devices operable?
  - d. Will you use other procedures to help maintain temperatures such as covering food with plastic tarps, insulated covers or cardboard, using dry ice, etc.?
5. Be mindful that some units such as open upright cases and small reach-in cases may lose temperature faster than closed units or coffin cases.
  - a. Are there units that need to be monitored more frequently than others?
6. Will TCS and other refrigerated food products be relocated from display cases to walk in coolers, freezers, or reefers (refrigerated trailers)?
7. Will food be moved to an off-site location? If so, how will temperatures be maintained and monitored while moving the food?
8. Do you have access to other equipment and supplies such as dry ice, portable generators, reefer trucks, totes to store food in trucks, plastic to wrap food, etc.?

The following sections provide additional guidance for answering these questions and developing your emergency plan.

## **II. Assessing a Power Outage Emergency**

In your assessment of an electrical interruption, consider (1) the nature of the power outage and the anticipated duration; (2) the potential impact on your operation; and (3) your ability to manage the safety of food, especially TCS food.

### **Nature of the power outage**

The nature and scope of a power outage will determine which steps in the emergency procedures need to be implemented. Power outages can be placed into three broad categories and you should plan for each of them:

1. Short term or localized outage such as electrical interruption at one facility or a limited area disruption that will be short in duration (less than four hours) and will not disrupt infrastructure services to the general community.
2. Large area power outage without disruption of community infrastructure which impacts telecommunications, fire and rescue services, etc. and may be of unknown duration.
3. Large area power outage with disruption of community infrastructure and services and of anticipated longer duration such as emergencies due to storms, floods, fires and earthquakes.

## Potential Impact on Operations

Determine what operational systems and equipment will be impacted by a power outage.

1. Identify the refrigerated cases which are most vulnerable to cold temperature loss, such as open upright cases.
2. Prioritize which TCS foods will need immediate attention in the event of refrigeration loss.
3. Heating and air conditioning, water heaters, security systems, computers, cash registers, lighting, refrigeration systems, ice makers, food/beverage dispensing systems, cooking/heating equipment, dish washing machines, sensor handwashing sinks, hand driers and other equipment/systems will most likely be inoperative unless other power sources such as generators are available.
4. Determine and assess the priority of power needs.

In addition to food safety concerns, several of the following factors should be considered when determining whether the facility can remain open or if certain departments within the facility can remain operational.

1. Has there been an evacuation or other order that would require you to close the facility?
2. Can employees safely get to work and once they arrive, will they be safe in the facility?
3. Are alternative procedures or back-up systems available?
4. Does remaining open provide access to resources that will be of assistance to the community?

## Food Safety Considerations

During a power outage, the primary concern is for TCS food because temperature abuse could result in unsafe food.

1. Is there an imminent health hazard?
  - a. Has the Regulatory Authority been consulted as appropriate?
  - b. Can you implement your prepared emergency food safety plan?

A food establishment manager (or the “Person-in-Charge”) is responsible for conducting both initial and ongoing assessments to ensure consistent compliance with food safety requirements.

## **III. Business Continuity During a Power Outage**

The following are food safety considerations and emergency procedures that can be taken to address specific affected equipment or facility operations during an interruption of electrical service. Consider discussing your emergency plan with your regulatory authority. In some cases, the Regulatory Authority may want to pre-approve your plan or temporary procedures.

## Refrigeration

### Emergency Procedures

1. Note the date and time the power outage begins.
2. Monitor and record equipment and TCS food temperatures from the start of the power outage. The Emergency Plan should include specific details on where to take temperatures, how frequently temperatures will be monitored and where to record the information.
3. Open upright retail cases without doors and small reach-in cases should be monitored more frequently since they will lose temperature faster than other equipment.
4. Keep refrigeration equipment doors closed. For open retail cases without doors, use insulated covers, cardboard, plastic or equivalent to retain cold air.
5. Relocate product in cases that cannot maintain safe temperatures to walk-in coolers, freezers, or reefers (refrigerated trucks).
6. Use tape and signs to alert staff to keep doors to walk-in coolers closed.
7. Seal display case doors with tape to prevent customers from opening them.
8. Do not put hot food into refrigeration equipment.

### Methods for Maintaining Cold Food Temperatures

**Refrigerated trucks:** Refrigerated trailers and trucks with insulated storage containers may be on-site or delivered to the food establishment during an emergency. Issues to consider include distance and time for delivery, ability to gain physical access to the location, source of fuel or energy to maintain truck refrigeration systems, manpower for food transfers, potential temperature abuse of foods awaiting transfer and security.

**Warehouse:** Determine if a refrigerated warehouse that is unaffected by the power outage or that has a back-up generator or alternate power source is available. Assure that the food can be transported and stored under adequate refrigeration. Transport to offsite storage will require access to vehicle(s), control of temperature, manpower, protection of food from contamination and secure holding capability.

**Ice or frozen gel packs:** These can be used to help keep food cold. Plan how and where you can obtain these items when they are in high demand by the general population. Issues of use include the ice/gel pack source availability, volume needed, transportation capability, and site handling of ice and melting ice waste water. Your plan should include procedures for how to use ice and/or gel packs to prevent cross-contamination of food. Consider storing frozen gel packs on-site to use during short term emergencies.

**Dry ice:** Dry ice is frozen carbon dioxide (CO<sub>2</sub>) gas that changes back to CO<sub>2</sub> gas when exposed to normal environmental temperatures. It is dangerous to handle because it is so cold. Also CO<sub>2</sub> gas is heavier than air and can displace the oxygen we need to breathe. If dry ice is used in enclosed spaces (i.e., a walk-in cooler)

employee and customer safety precautions must be followed because of the potential build-up of CO<sub>2</sub> gas and displacement of oxygen. Do not place dry ice into a sealed room, cooler or container without allowing a means for the gas to escape as it changes from its solid to gaseous state. If dry ice is used, pack TCS food tightly together and place dry ice above foods to allow the cold CO<sub>2</sub> gas to sink and fall over the food items. Precautions must be taken to avoid burns when handling dry ice, such as wearing insulated gloves. Refer to the material safety data sheet for specific hazardous identification, personal protective equipment requirements, ventilation, exposure controls and handling practices. Issues of use include dry ice availability, volume needed, transportation, and site handling and safety.

## **Other Power Sources**

Prioritize the equipment or systems that must be supported by supplemental power sources.

### **Generators**

Determine which equipment is operated by the generator. Generators may not routinely have the capacity to operate critical equipment such as refrigeration and freezer units. In that case, consider additional generators for maintaining refrigeration, including portable generators (owned or rented) that can be transported to the facility during an emergency.

1. A plan should be in place to refuel generators during long term power outages.
2. Make certain that individuals are trained to operate the supplemental power equipment safely. Be sure to consult with a licensed electrician.
3. The electrical utility company should be advised if you are using a generator as a safety precaution for utility workers.

### **Lighting**

1. Diminished or lack of artificial illumination may impact personal safety.
2. Without sufficient lighting, you may not be able to properly perform food safety related tasks such as food preparation, food handling, cleaning equipment/utensils and cleaning the premises.
3. Artificial light may be available if you are using a generator or other lighting source such as battery operated fixtures.
4. Restrict operations to those procedures that can be safely conducted using alternative lighting.
5. If sufficient natural light is available, limit operations to daylight hours.

### **Cooking Equipment**

1. Cooking equipment can be connected to an alternative power source such as a generator. However, fully assess if cooking operations can continue to be

performed safely - consider temperature controls, hot holding temperatures, food handling and equipment cleaning.

2. Unless the ventilation system is operating on alternative power there will be no way to remove cooking smoke, steam, grease laden air, etc. Without ventilation, you should discontinue cooking operations.
3. Discontinue cooking operations unless all safe cooking practices are in place,
4. Discard TCS foods that were in the cooking or re-heating process but did not reach a safe final temperature.

### **Dishwashing Equipment**

1. Use the three compartment sink if hot water is still available.
2. Use single service tableware.
3. Review chemical label or consult your chemical supplier to determine efficacy of detergents and degreasers as it relates to water temperature. When sanitizer solutions are used, the water temperature should be at or above the minimum temperature stated in the Food Code for that class of sanitizers. Sanitizer solutions may be used at temperatures lower than those stated in the Food Code when the lower temperature is listed on the EPA registered label.
4. Discontinue operations that generate soiled utensils/tableware if they cannot be properly washed and sanitized.

### **Water and Sewage**

1. See “Interruption of Water Service” procedures.
2. If sewage ejector pumps are inoperable discontinue operations.
3. Contact the local health department for possible alternative options.

### **Safe Food Handling Procedures**

#### **Hot Food Holding**

1. Note the time the power outage begins.
2. If power returns within two hours, rapidly reheat food to 165°F within an additional two hours. The time the food is between the temperatures of 41°F and 135°F should not exceed two hours.
3. If power does not return within two hours, product must be discarded within four hours from the time of power outage (unless it is kept above 135°F, as indicated in 4 below).
4. Alternatively, use an alternate heat source such as “canned heat” and monitor temperatures hourly to ensure product remains above 135°F.

#### **Cold Holding of TCS Food**

Guidelines have been developed specifically for cold holding TCS food during a power outage that affects refrigeration temperatures. The time and temperature (T/T) recommendations and disposition criteria presented in Chart 1 are based on science to

ensure the safety of TCS food and were accepted at the 2012 Conference for Food Protection.

Important facts about the time and temperature (T/T) combinations in Chart 1:

1. The T/T combinations are based on conservative assumptions about pathogen growth and represent a wide margin of safety.
2. Some TCS foods have an even greater margin of safety because they have protective characteristics such as low pH and/or water activity. You may want to consult the Regulatory Authority for appropriate disposition criteria for these types of TCS foods.
3. If a facility intends to use Chart 1 for managing TCS foods during a power outage it must have a written plan prepared in advance, maintained at the facility and available to the Regulatory Authority upon request.
4. If TCS food does not exceed the T/T combinations in Chart 1 it is treated as if the deviation never occurred; the sell-by or use-by date is unchanged.
5. TCS foods are safe to sell/serve beyond the maximum time if they are back to 41°F (5°C) within the maximum time frame (see examples).
6. There are two ways to monitor the time:
  - a. You can “start the clock” for monitoring time based on the time when the power went out, or
  - b. You can “start the clock” based on when the food reaches 41°F(5°C) provided you have been checking the food temperature in accordance with your written plan.



Chart 1: Procedures for Handling Refrigerated TCS Food During A Power Outage				
TIME (HOURS)	PRODUCT TEMPERATURE			
	Maximum Temp up to 45°F (7°C)	Maximum Temp up to 50°F (10°C)	Maximum Temp up to 55°F (13°C)	Maximum Temp up to 60°F (15°C)
Up to 4	Hold/Serve/Sell	Hold/Serve/Sell	Hold/Serve/Sell	Hold/Serve/Sell
				At 4 hours, cook or discard the food if it is still over 41°F (5°C).
				If food temp is back to 41°F within the 4 hours it can be held/served/sold.
>4 to 6	Hold/Serve/Sell	Hold/Serve/Sell	Hold/Serve/Sell	
				At 6 hours, cook or discard the food if it is still over 41°F (5°C).
				If food temp is back to 41°F (5°C) within the 6 hours it can be held/served/sold.
>6 to 9	Hold/Serve/Sell	Hold/Serve/Sell		
				At 9 hours, cook or discard the food if it is still over 41°F (5°C).
				If food temp is back to 41°F (5°C) within the 9 hours it can be held/served/sold.
>9 to 15	Hold/Serve/Sell			
				At 15 hours, cook or discard the food if it is still over 41°F (5°C)
				If food temp is back to 41°F (5°C) within the 15 hours it can be held/served/sold.

**Note:** This chart is intended for use as part of an emergency plan and not for day-to-day operations. See previous page and following examples for usage assistance.

## Examples of Cold Holding T/T Monitoring and Disposition of TCS Food During a Power Outage

The following are examples of monitoring TCS food during a power outage based on Chart 1, *Procedures for Handling Refrigerated TCS Food During A Power Outage*. Note that the location, date, time, temperature and disposition are recorded on the monitoring chart below.

**In Example #1 the establishment is using the time of the power outage as the start time for monitoring.**

### Example #1:

In this example, the temperature of TCS food exceeds 41°F but never exceeds 45°F during 15 hours from the start of the power outage. The TCS food is back to 41°F in 15 hours from the start of the power outage. The sell-by date and/or shelf life does not change.

Power outage start time: 10:00 PM	Date & Time 10-1-2012 (Elapsed Time)	Temperature (°F)	Disposition
<b>Location:</b> Cooler #2			
Start Time	Mon 10:00 PM	36°F	Sell or Hold
	12:00 PM (2)	38°F	Sell or Hold
	Tue 2:00 AM (4)	40°F	Sell or Hold
	4:00 AM (6)	41°F	Sell or Hold
	6:00 AM (8)	42°F	Sell or Hold
	8:00 AM (10)	44°F	Sell or Hold
Power is restored	10:00 AM (12)	<b>45°F</b>	Sell or Hold
	12:00 AM (14)	42°F	Sell or Hold
	1:00 PM (15)	<b>41°F</b>	Sell or Hold
<b>Total Time</b>	15 hours	Max temp: 45°F Temp at 15 hours is 41°F	Food can be cooked, sold, served or held until the sell-by date.

**In Example #2 the establishment is using the food temperature to determine the start time.**

**Example #2**

In this example, the food temperature is monitored from the beginning of the power outage, but the time starts when the food reaches 41°F. The temperature of TCS food exceeds 41°F but never exceeds 45°F during the next 15 hours. The TCS food is back to 41°F within 15 hours from the “start time.” The sell-by date and/or shelf life does not change.

Power outage start time: 10:00 PM	Date & Time 10-1-2012 (Elapsed Time)	Temperature (°F)	Disposition
<b>Location: Cooler #2</b>			
Mon	10:00 PM	34°F	Sell or hold
	12:00 PM	38°F	Sell or hold
<b>Start Time</b> Tue	2:00 AM	<b>41°F</b>	Sell or Hold
	4:00 AM (2)	42°F	Sell or Hold
	6:00 AM (4)	43°F	Sell or Hold
	8:00 AM (6)	44°F	Sell or hold
Power is restored	10:00 AM (8)	<b>45°F</b>	Sell or hold
	12:00 AM (10)	44°F	Sell or hold
	2:00 PM (12)	43°F	Sell or hold
	4:00 PM (14)	42°F	Sell or hold
	5:00 PM (15)	<b>41°F</b>	Sell or hold
<b>Total Time above 41°F</b>	15 hours	Max temp: 45°F Temp at 15 hours is 41°F	Food can be cooked, sold, served or held until the sell-by date.

**In Example #3 the establishment is using the food temperature to determine the start time.**

**Example #3:**

In this example, the food temperature is monitored from the beginning of the power outage, but the time starts when the food exceeds 41°F. The temperature of TCS food exceeds 41°F but never exceeds 50°F during nine hours from the start of the power outage. The TCS food is not back to 41°F within nine hours from the time monitoring started so it must be cooked or discarded.

<b>Power outage start time:</b> 7:00 am	<b>Date &amp; Time</b> 10-1-2012 (Elapsed Time)	<b>Temperature</b> (°F)	<b>Disposition</b>
<b>Location: Cooler # 3</b>			
	7:00 am	38°F	
	8:00 am	40°F	
<b>Start Time</b>	9:00 AM	41°F	Sell or Hold
	11:00 AM (2)	43°F	Sell or Hold
	1:00 PM (4)	45°F	Sell or Hold
Power is restored	3:00 PM (6)	<b>50°F</b>	Sell or hold
	5:00 PM (8)	45°F	Sell or hold
	6:00 PM (9)	<b>43°F</b>	Cook or discard
<b>Total Time</b>	9 hours	Max temp: 50°F Temp at 9 hrs is 43°F	Cook or discard

#### **IV. Recovery Following a Power Outage**

Recovery involves the necessary steps for returning to normal, safe business operations including re-opening if the facility had to close as a result of the power outage.

**A food establishment that was ordered or otherwise required to cease operations may not re-open until authorization has been granted by the Regulatory Authority.**

(See Extended Interruption of Water Service for re-opening considerations relative to the water supply.)

#### **Refrigerated TCS Food**

The procedures for monitoring TCS food and disposition criteria are explained above. These guidelines can only be used if the time and temperature were monitored according to a written plan. If the time/temperature of TCS foods were not monitored during the power outage and the temperature may have exceeded 41°F (5°C), the TCS food should be discarded. When in doubt, throw it out!

Although these guidelines are intended for all TCS foods, some commodities are less likely to support the growth of pathogens even though they are considered TCS foods. These foods may have other protective characteristics such as low pH and/or water activity. You may want to consult the Regulatory Authority for appropriate disposition criteria for these types of TCS foods.

It is advisable to discuss disposition of TCS foods that do not support the growth of pathogens in advance of an emergency and consider including a list of these TCS foods in your plan.

#### **Refrigerated Non-TCS food**

Although non-TCS foods do not require temperature monitoring for safety, they should be closely examined for signs of spoilage, damage or loss of package integrity following a power outage. Disposition should take into consideration loss of quality. Non-TCS food may be suitable for selling, serving or donating to other organizations such as food banks or shelters.

#### **Frozen food**

Frozen foods that remain solid or semi-solid can be refrozen if food packages show no evidence of damage such as weeping, stains, physical deterioration or evaporation.

1. If TCS frozen food product is somewhat thawed or soft and has not exceeded 41°F on the outside and the inner core is still solid, it can be refrozen or further processed/cooked by food service operators.

2. Non-TCS frozen food that has thawed can be sold, further processed, cooked or donated. If this product is sold or donated, appropriate consumer notice should be provided.

**Key areas to consider for returning to normal operation when power is restored:**

1. The Regulatory Authority may have to approve returning to regular operations; check local requirements.
2. A food establishment or an area within the facility that was ordered to cease operations due to an imminent health hazard may not re-open until authorization has been granted by the Regulatory Authority
3. Check to ensure that electricity, potable water, and/or gas services have been fully restored.
4. Document the date and time power was restored.
5. Verify that all circuit breakers have been properly re-set as needed.
6. Assure that all equipment and facilities are operating properly including: lighting, refrigeration (back to operating temperature of 41°F/5°C and below), hot holding, ventilation, water supply, sewage pumps, hot water heaters, toilet facilities, ware washing machines and hand washing facilities.
7. Food contact surfaces, utensils and equipment may need to be cleaned and sanitized before use. Remember to check such things as ice machines where water from melted ice may have accumulated.

## ***Interruption of Water Service***

*When there is an interruption of water service, it is recommended that the permit holder note the date and time of the event. The PIC should assess the situation. Brief interruptions that do not impact food safety may not require emergency procedures.*

*When there is an extended interruption of water service it is recommended that the PIC implement emergency procedures. Immediately discontinue operation if a safe operation cannot be maintained or if food safety cannot be assured using an alternative procedure. If there is a significant threat or danger to health, then an Imminent Health Hazard may exist and the permit holder should immediately discontinue operations and notify the Regulatory Authority. Consider discussing your emergency plan with the Regulatory Authority. Emergency action plans should be available on-site for review. In some cases, the Regulatory Authority may want to pre-approve your plan.*

### **I. Planning for Response to an Interruption of Water Service**

**Note:** The following section includes procedures for when there is an actual loss of water service. Procedures for handling “boil water advisory” can be found in the next section called *Contaminated Water Supply Incident*.

In developing your written food safety emergency plan, think about the decisions you will have to make if there is an interruption in water service. Consider how water can be obtained to support continued operation during an emergency water interruption or how to limit operations to ensure a safe operation. The following are some tasks you may want to include in your plan as appropriate.

1. Determine how much water is needed to operate equipment and sinks, prepare emergency menu items, etc.
2. Determine the types of alternate water sources that may be available.
3. Identify contact information, address, directions and equipment/supplies needed to obtain alternate commercial, private or public water supplies and points where containers can be filled with potable water.
4. Develop a business agreement with a supplier of bottled water or a licensed drinking water hauler.
5. Locate public water supplies in your area and points where containers can be filled with drinking water.
6. Maintain an inventory of bottled water, containers suitable for hauling water and/or containers for storing water if delivered from a bulk carrier.
7. Maintain current contact information for service providers such as plumber, well contractor, utility company, water supplier and ice supplier.
8. Maintain an inventory of disposable gloves and hand sanitizer for use after washing hands with alternative water source.
9. Maintain an inventory of single-service and single-use articles to help get through a reasonable time period.

10. Develop a contingency plan for toilets.
11. Develop a business agreement with a supplier of ice in order to assure you that you will have access to ice during an emergency.
12. Develop a list of equipment that uses water in your establishment and develop a contingency plan that describes what you would do if the water is either interrupted or contaminated.
13. Prepare an “emergency menu” in advance including recipes for food items that require no water or minimal amounts of water to prepare. Also, identify the number of servings/or people that can be served or supported.

### **Private Water Source (Non-community water supply)**

Food establishments using a Type II or Type III non-community water supply (such as a well) must follow the disinfection and sampling requirements of the Safe Drinking Water Act as found in 40 CFR 141 and 142 (Code of Federal Regulations). Contact your Regulatory Authority for specific instructions. Some municipalities may rely on other organizations such as EPA or local Department of Environmental Quality for assuring the safety of non-community water supplies.

## **II. Assessing an Interruption of Water Service**

In your assessment of a water service interruption, consider the nature, scope and anticipated duration of the emergency; the potential impact on your operation; and your ability to ensure the safety of food.

### **Nature, scope and duration**

The nature and scope of a water interruption will determine which steps in the emergency procedures need to be implemented. Interruption in water service can be placed into three broad categories and you should plan for each of them:

1. Short term or localized emergencies such as an interruption at one facility that will be short in duration (less than four hours) and will not disrupt infrastructure services to the general community.
2. Large area water interruption without disruption of community infrastructure which may be of unknown duration.
3. Large area water interruption with disruption of community infrastructure and services and of anticipated longer duration such as emergencies due to storms, floods, fires and earthquakes.

### **Potential Impact on Operations**

Determine what operation systems and equipment will be impacted by an interruption in water service.

1. Identify which systems, procedures and equipment are dependent on the availability of water.



2. Sinks (handwashing, prep, etc.), warewashing equipment, ice makers, beverage mixing/dispensing machines, toilets and other equipment that depend on water will most likely be unusable. Without sufficient safe water supplies, cleaning and sanitizing procedures will be disrupted.
3. Some systems that require water, but which may not use potable or drinking quality water such as heating/air conditioning equipment and cooling systems, should also be assessed.

Determine whether the facility can remain open or if parts of the facility can remain operational. Consider the following:

1. Are back-up or temporary systems available?
2. Has there been an evacuation or other order that would require you to close the facility?
3. Does remaining open provide assistance to the community and those in need?

### **Food Safety Considerations**

During an interruption in water service, the primary concern is for food safety.

1. Is there an imminent health hazard that would not permit a safe operation?
2. Has the Regulatory Authority been consulted as appropriate?
3. Can you implement your food safety plan under the circumstances of the emergency?

A food establishment manager (or the “Person-in-Charge”) is responsible for conducting both initial and ongoing assessments to ensure consistent compliance with food safety requirements.

### **III. Business Continuity During an Interruption of Water Service**

The following are temporary alternative procedures that can be taken to address specific affected food operations during an extended interruption of water service. Consider discussing your emergency plan with your regulatory authority. In some cases, the Regulatory Authority may want to pre-approve your plan or temporary procedures.

#### **Drinking Water and Approved Water Sources**

During an emergency, other approved sources of water may be available. Examples include:

1. Commercially bottled water.
  - a. Large water bottles used for water dispenser units. Some dispenser units have lever type faucets for hot or cold water if such a dispenser unit can be provided with electricity. A service company can provide delivery of large water bottles.
  - b. Individual retail sized containers of bottled water.
2. Municipal or approved water source delivered in bulk using a tanker truck, water buffalo style water tank that is pulled by a motor vehicle, approved portable water

containers, covered sanitized bulk water containers or other approved sanitary means of transporting water.

3. Haul water from an approved public water supply in a covered, food-grade container that has been cleaned and sanitized.
4. Use of an approved water supply from a neighboring location using approved sanitary hose(s) and fittings.
5. Use of fire system water when approved by the Regulatory Authority. This water is not usually considered potable and may require additional treatment prior to use.

## Water as a Food Ingredient

The alternative water sources listed under Drinking Water can also be used for food preparation and as an ingredient. Determine how safe drinking water will be provided and how this water will be stored and dispensed. Alternatively, restrict the menu or food preparation to items that don't require water.

## Handwashing

*Remember* - if no handwashing sinks are operational and no alternative handwashing facilities can be set up, food preparation **must** cease, and only pre-packaged food may be served.

1. When prepackaged foods are provided, the following must also be available if hand wash facilities are unavailable in the immediate area where the prepackaged food is handled:
  - a. Approved hand antiseptics or chemically treated towelettes must be used for cleaning hands; and
  - b. An operational handwashing sink or a handwashing set-up (as described in Section 2 below) must be provided for use in the immediate area of a toilet facility; and
  - c. A toilet facility, as described in the toilet section below, must be conveniently located and accessible. For example, locate the toilet facility within 200 feet of the food establishment's entrance.
2. When a facility has no operational handwashing sinks, but an alternative handwashing facility can be set up, the following procedures must be followed if food production is to continue:
  - a. A "gravity flow" handwashing set-up using potable water (e.g. commercially bottled water) in a clean, sanitized container with a continuous-flow type spigot allowing water to flow over one's hands into a catch bucket.
  - b. The catch bucket must be emptied into an operational drain such as a janitor sink or toilet.
  - c. Hands must be washed after emptying the catch bucket and before returning to food handling operations.
  - d. Suitable, dispensable hand soap, disposable towels, and a waste receptacle at designated hand wash stations must be provided.
  - e. Ready-to-eat foods may not be touched with bare hands.

- f. Suspend bare hand contact even if this process has been approved as an alternate procedure.
3. A handwashing sink that is backing up or not draining properly must not be used and must be posted, labeled or otherwise identified to prevent its use until draining issues are resolved.

## **Toilet Facilities**

A toilet that is not operational must be properly posted to prevent further use.

If there are no operational toilets accessible to employees during all hours of operation that can be used until service is restored, discontinue operation until toilet facilities are available.

When permitted or approved by the Regulatory Authority, use of portable mobile toilet facilities or alternate toilet facilities are acceptable provided they:

1. Are conveniently located and accessible. For example, locate the toilet facility within 200 feet of the food establishment's entrance.
2. Are properly ventilated, maintained and serviced in a manner that will not contaminate food or create a nuisance.
3. Have adequate handwashing facilities in the immediate vicinity of the toilet(s). Adequate handwashing facilities can include a "gravity flow" handwashing set-up as described in Section 2 of the Handwashing section.

When toilet facilities are not operational due to a lack of water for flushing, their use may be continued provided:

1. There is no sewage backup, and
2. There is an alternate supply of potable water that can be dumped into the toilet to flush waste down the drain.

## **Ice**

Use commercially manufactured ice.

## **Post-mix Fountain Drinks**

Discontinue service.

## **Cleaning/Sanitizing Equipment, Utensils, Tableware**

1. Use single service/use articles.
2. Use only water from an alternate approved source (as listed above) for cleaning equipment, utensils, tableware and surfaces that may contact food.
3. Determining the volume or quantity of water needed will be of particular importance. A standard utensil sink can require 10 to 20 gallons of water for each compartment. Water temperature must be at least at or above the minimum

temperature stated in the Food Code for that class of sanitizers (i.e. 75°F for Quaternary Ammonias), unless a different temperature is listed on the usage instructions on the EPA registered label.

4. If water from an alternate source can be obtained, then follow established procedures to wash, rinse, and sanitize. Pre-scrape prior to washing as necessary.
5. Discontinue operations as inventories of clean equipment, utensils, and tableware are exhausted.
6. Discontinue operations when cleaning and sanitizing procedures can no longer ensure food safety.

### **Cleaning Physical Facility**

7. Determine water use needs to maintain a clean facility. Using a mop bucket with detergent solution may require three to five gallons of water. After use additional water may be required to clean the mop and bucket.
8. Discontinue operations if cleanliness of the physical facility could jeopardize food safety.

## **IV. Recovery Following an Interruption of Water Service**

Recovery involves the necessary steps for returning to normal, safe business operations including re-opening if the facility had to close as a result of the interruption of water service.

Regulatory authorities may have to approve returning to regular operations; check local requirements. A food establishment or an area within the facility that was ordered to cease operations due to an imminent health hazard may not re-open until authorization has been granted by the Regulatory Authority

### **Key actions to consider for returning to normal operation:**

1. Document the date and time water service was restored.
2. Assure that all equipment and facilities are operating properly.
3. Assure that tools and equipment used for cleaning and sanitizing are clean and sanitized prior to use for the rest of the facility.
4. Flush pipes/faucets.
  - a. Follow the directions from your water municipality or, as general guidance, run cold water faucets for at least five minutes.
5. Equipment with waterline connections such as post-mix beverage machines, spray misters, coffee or tea urns, ice machines, glass washers, dishwashers, and other equipment with water connections must be flushed, cleaned, and sanitized in accordance with manufacturer's instructions.
6. Clean and sanitize food contact surfaces, utensils and other equipment before use.
7. Run water softeners through a regeneration cycle.
8. Drain reservoirs in tall buildings.

9. Change out all water filters.
10. Flush beverage machines.
11. Flush drinking fountains by running water continuously for five minutes followed by sanitization of the water dispensing spigots.

### ***Ice Machine Sanitation***

1. Follow the manufacturer's instructions for flushing and cleaning ice machines.
2. Below is a general example of a written cleaning/sanitizing procedure for an ice machine:
  - a. Flush the water line to the machine inlet
  - b. Close the valve on the water line behind the machine and disconnect the water line from the machine inlet.
  - c. Open the valve, run water through the valve for 10-15 minutes and dispose of the water.
  - d. Close the valve.
  - e. Reconnect the water line to the machine inlet.
  - f. Open the valve.
  - g. Flush the water lines in the machine.
  - h. All filters on equipment should be removed and replaced if not designed to be cleaned in place.
  - i. Turn on the machine.
  - j. Throw away the first three batches of ice that the machine makes.
  - k. Clean and sanitize all parts and surfaces that come in contact with water and ice, following the manufacturer's instructions.
3. Alternatively, contact cleaning service provider to clean equipment before putting back into service.

## **Contaminated Water Supply (Biological)**

**Note:** The following section refers to procedures for when there is a Boil Water Advisory.

When a municipality has issued a Boil Water Advisory or when an onsite water supply has exceeded the maximum contaminant level for coliform bacteria the permit holder must report to the regulatory authority. The PIC should assess the situation and implement emergency procedures. Immediately discontinue operation if a safe operation cannot be maintained or if food safety cannot be assured using an alternative procedure. If there is a significant threat or danger to health, then an Imminent Health Hazard may exist and the permit holder should immediately discontinue operations and notify the Regulatory Authority. Consider discussing your emergency plan with the Regulatory Authority. Emergency action plans should be available on-site for review. In some cases, the Regulatory Authority may want to pre-approve your plan.

**I. Planning for Response to a Contaminated Water Supply Incident** Your food safety emergency plan should include specific details for how you will respond to an official Boil Water Advisory or when an onsite water supply has exceeded the maximum contaminant level for coliform bacteria. **(Refer to EPA requirements or local regulatory authority for guidance.)** For single events affecting an individual establishment, the permit holder should report to the Regulatory Authority as required.

### **II. Assessing a Contaminated Water Incident**

Immediately discontinue operation if a safe operation cannot be maintained. Follow the appropriate emergency procedures if approved by the Regulatory Authority or remain closed until granted approval to re-open by the Regulatory Authority.

In the event of an emergency involving a contaminated water supply, appropriate food establishment responses must be taken after an assessment of the situation. Refer to the assessment factors detailed in the *Interruption of Water Service* section.

A food establishment manager (or the “Person-in-Charge”) is responsible for conducting both initial and ongoing assessments to ensure consistent compliance with food safety requirements.

### **III. Business Continuity During a Contaminated Water Incident**

The following are temporary procedures that can be taken to address specific affected food operations during a boil water advisory or biological contamination of the water supply.

During a boil water advisory, stop food service/food handling operations if safe water cannot be provided either by boiling or using an alternative source. Prepackaged food can still be provided.

Remember that a contaminated water incident impacts all uses of potable water including water for consumption, food preparation, warewashing, handwashing and cleaning/sanitizing food contact equipment and surfaces.

Consider discussing your emergency plan with your regulatory authority. In some cases, the Regulatory Authority may want to pre-approve your plan or temporary procedures.

## **Boiling Water**

Where “boiled” water is indicated for use as potable water, the water must remain at a rolling boil for at least one minute. Chemical disinfection is generally not an option for food establishments because of the lack of onsite equipment for testing chemical residuals. If chemical disinfection is being considered, check with the Regulatory Authority.

## **Drinking Water**

1. Use commercially bottled water and/or water that has been boiled for at least one minute.
2. Haul water from an approved public water supply in a covered, food-grade container that has been cleaned and sanitized.
3. Arrange to use a licensed drinking water tanker truck.
4. Additional information for safe drinking water can be found on the EPA Web site at: [www.epa.gov/ogwdw/faq/emerg.html](http://www.epa.gov/ogwdw/faq/emerg.html).

## **Auto-fill Water Appliances and Equipment**

Automated equipment used to make beverages including post-mix carbonated beverages, auto-fill coffee makers, instant hot water dispensers, juice and tea dispensers, etc. do not sufficiently heat/boil water to make it safe to drink.

1. Discontinue use of auto-fill appliances and equipment.

## **Ice Making**

1. Discard existing ice.
2. Discontinue making ice.
3. Use commercially manufactured ice made from a safe water source.

## **Preparing Food Products Requiring Water**

1. Immediately discontinue preparing food with potentially contaminated water.
2. Discard ready-to-eat food prepared on-site that may have been prepared with or may have come in contact with contaminated water.

3. RTE food items stored with ice or displayed on ice that could have been made from contaminated water should be discarded.
4. Prepare food using potable water from an approved source such as commercially bottled or boiled water (see above for proper procedures for boiling water).

### **Washing/Soaking Fresh Produce**

1. Use pre-washed packaged produce.
2. Use frozen or canned fruits and vegetables.
3. Clean and sanitize sink with potable water then wash fresh produce with water that has come to a rolling boil for one minute, commercially bottled water or potable water from a safe alternate source.

### **Thawing frozen foods**

1. Thaw food only in the refrigerator or as part of the cooking process.

### **Handwashing**

*Remember* - if no alternative handwashing procedures can be set up, food preparation must cease, and only pre-packaged food may be served.

When water has known microbiological contamination, remember to use these special procedures:

1. Use bottled water, boiled water, or safe water from an approved source.
2. Do not allow bare hand contact with ready-to-eat food. Suspend otherwise approved alternative procedures for bare hand contact.

Follow these handwashing procedures to ensure safe food handling:

1. When prepackaged foods are provided, the following must also be available if hand wash facilities are unavailable in the immediate area where the prepackaged food is handled:
  - a. Approved hand antiseptics or chemically treated towelettes must be used for cleaning hands; and
  - b. An operational handwashing sink or a handwashing set-up (as described in Section 2 below) must be provided for use in the immediate area of a toilet facility.
2. When a facility has no handwashing sinks with potable water available, but an alternative handwashing facility can be set up, the following procedures can be followed if food production is to continue:



- a. A “gravity flow” handwashing set-up using potable water (e.g. commercially bottled water) in a clean, sanitized container with a continuous-flow type spigot allowing water to flow over one’s hands into a catch bucket.
  - b. The catch bucket must be emptied into an operational drain such as a janitor sink or toilet.
  - c. Hands must be washed after emptying the catch bucket and before returning to food handling operations.
  - d. Suitable, dispensable hand soap, disposable towels, and a waste receptacle at designated hand wash stations must be provided.
  - e. Ready-to-eat foods may not be touched with bare hands.
  - f. Suspend bare hand contact even if this process has been approved as an alternate procedure.
3. A handwashing sink with non-potable water must be labeled or otherwise identified to prevent its use.

### **Cleaning and Sanitizing Utensils and Tableware**

During a boil water advisory, it is recommended that you use single service utensils and tableware.

Under emergency situations some regulatory authorities may allow the use of non-potable water for warewashing and sanitizing processes. Sanitizers may not be effective against eliminating parasites and viruses that could be present in contaminated water. Therefore, before using water under a boil water advisory for warewashing or sanitizing, contact the Regulatory Authority for approval.

Before using the existing automatic warewashing machine with non-potable water, consider if the water temperature, cleaning agents and/or heat cycle are sufficient to clean and sanitize utensils and tableware.

Likewise, if using a three compartment sink with non-potable water, consider if the sanitizer concentration and contact time are sufficient to clean and sanitize utensils and tableware.

If using an automatic chemical dispensing system, manually mix chemicals using the manufacturer’s label directions for mixing and provide personal protective equipment required for chemical usage.

### **Spray Misting Units**

1. Automatic misting units should be turned off during boil water advisories.
2. If using a sprayer bottle, it must contain potable water (boiled, bottled or other approved source). The spray bottle needs to be cleaned and sanitized and properly labeled.

## **Cleaning Physical Facility**

1. Discontinue operations if cleanliness of the physical facility could jeopardize food safety.
2. Non-potable water can be used for mopping floors and cleaning other non-food contact surface cleaning.

## **IV. Recovery from a Contaminated Water Incident**

Recovery involves the necessary steps for returning to normal, safe business operations including re-opening if the facility had to close as a result of an unsafe water supply.

Regulatory authorities may have to approve returning to regular operations; check local requirements. A food establishment or an area within the facility that was ordered to cease operations due to an imminent health hazard may not re-open until authorization has been granted by the Regulatory Authority.

Consider the following steps for returning to normal operations after safe water service has been restored and after either the municipality or regulatory authority has lifted the “Boil Water Advisory.”

### **Key actions to consider for returning to normal operation:**

1. Document the date and time when the boil water advisory is lifted or when water has been tested and deemed safe for use.
2. Assure that cleaning and sanitizing equipment such as dishwashing machines, three compartment sinks, buckets, etc. are clean and sanitized.
3. Flush pipes/faucets. Follow the directions from your water municipality or, as general guidance, run cold water faucets for at least five minutes.
4. Equipment with waterline connections such as post-mix beverage machines, spray misters, coffee or tea urns, ice machines, glass washers, dishwashers, and other equipment with water connections must be flushed, cleaned, and sanitized in accordance with manufacturer’s instructions.
5. Clean and sanitize food contact surfaces, utensils and other equipment before use.
6. Run water softeners through a regeneration cycle.
3. Drain reservoirs in tall buildings.
4. Flush drinking fountains by running continuously for five minutes.
5. Replace filters in equipment such as water chillers, ice machine, etc.

### **Ice Machine Sanitation**

1. Follow the manufacturer’s instructions for flushing and cleaning ice machines.
4. Below is a general example of a written cleaning/sanitizing procedure for an ice machine:
  - a. Flush the water line to the machine inlet

- b. Close the valve on the water line behind the machine and disconnect the water line from the machine inlet.
  - c. Open the valve, run water through the valve for 10-15 minutes and dispose of the water.
  - d. Close the valve.
  - e. Reconnect the water line to the machine inlet.
  - f. Open the valve.
  - g. Flush the water lines in the machine.
  - h. All filters on equipment should be removed and replaced if not designed to be cleaned in place.
  - i. Turn on the machine.
  - j. Throw away the first three batches of ice that the machine makes.
  - k. Clean and sanitize all parts and surfaces that come in contact with water and ice, following the manufacturer's instructions.
2. Alternatively, contact cleaning service provider to clean equipment.

### **Private Water Source (Non-community water supply)**

Food establishments using a Type II or Type III non-community water supply (such as a well) must follow the disinfection and sampling requirements of the Safe Drinking Water Act as found in 40 CFR 141 and 142 (Code of Federal Regulations). Contact your Regulatory Authority for specific instructions. Some municipalities may rely on other organizations such as EPA or local Department of Environmental Quality for assuring the safety of non-community water supplies.

## **Sewage Backup**

*When there is a sewage backup, it is recommended that the permit holder note the date and time of the event. The PIC should assess the situation and implement emergency procedures. Immediately discontinue operation if a safe operation cannot be maintained or if food safety cannot be assured using an alternative procedure. If there is a significant threat or danger to health, then an Imminent Health Hazard may exist and the permit holder should immediately discontinue operations and notify the Regulatory Authority. Consider discussing your emergency plan with the Regulatory Authority. Emergency action plans should be available on-site for review. In some cases, the Regulatory Authority may want to pre-approve your plan.*

### **I. Planning for Response to a Sewage Backup**

For the purpose of this guidance, a sewage backup means the overflow of sewage from equipment or plumbing facilities within a food establishment. The following information is intended for use when a true emergency occurs and not for sewage backups due to negligence or failure to properly maintain equipment and facilities. The Food Code defines sewage as “liquid waste that contains animal or vegetable matter in suspension or solution and may also include liquids containing chemicals in solution.” Clear water waste (i.e. ice bin/machine drainage, condensation from refrigeration and air conditioning equipment) is not considered sewage.

Sewage can contain pathogens that could become a source of contamination on equipment, environmental surfaces, cleaning tools, employee and/or customer shoes and clothing. Limiting contamination from sewage requires control of affected areas and preventing contamination from being spread to non-contaminated areas, items, people and food.

In developing your written food safety emergency plan, think about the decisions you will have to make if there is a sewage backup within the establishment. Consider alternative operations, how to limit operations to ensure a safe operation, when to discontinue operations, and cleaning and sanitizing. The following are some tasks you may want to include in your plan as appropriate.

1. Maintain current information for emergency contacts such as repair companies and service providers, plumber, pumping service, cleaning/sanitizing company, municipal sewer company, and local regulatory authority.
2. Identify equipment/supplies needed to handle a sewage backup incident.
3. Identify emergency cut-off valves, back-siphonage preventers and water supply lines.
4. Maintain an inventory of cleaning/sanitizing supplies, disposable gloves, hand soaps, hand sanitizers, disinfectants and emergency personal protective equipment. [Note: Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these

situations. Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]

5. Develop a contingency plan for toilets.
6. If possible, have a plumbing-drainage schematic that identifies how the waste drainage system is designed. This will help identify drains and equipment that may be impacted by plumbing line stoppages causing sewage back up. Note: Usually the lowest opening in the drainage system will overflow or back-up first.

## **II. Assessing the Impact of a Sewage Backup**

In your assessment of a sewage backup, consider the nature, scope and anticipated duration of the emergency; the potential impact on your operation; your ability to ensure the safety of food; and the potential impact on public health of both employees and customers.

### **Nature, scope and duration**

The nature and scope of a sewage backup will determine which steps in the emergency procedures need to be implemented. A sewage backup may affect only a single piece of equipment such as a single toilet or sink, a localized area such as a bathroom or the meat department, or a larger area including the entire facility.

### **Potential Impact on Operations**

Determine what areas, systems and equipment will be impacted by a sewage backup when drains or equipment are not draining as required or those which may be contaminated by sewage backup or overflow. Consider the following:

1. Specific areas where equipment could potentially come in contact with sewage.
2. Procedures such as handwashing, warewashing, cleaning and sanitizing that may be disrupted.
3. Other systems not specifically within food areas that use water and require water drainage such as heating/air conditioning equipment and cooling systems that may also be affected.

### **Food Safety Considerations**

During a sewage backup a primary concern is for food safety. Ask these questions:

1. Can you implement your food safety plan under the circumstances of the emergency?
2. Are food and/or food equipment and surfaces exposed to sewage?

### **Public Health Considerations**

During a sewage backup one of the primary concerns is to protect the health of employees and customers. Ask these questions:

1. Is there an imminent health hazard that would not permit a safe operation?
2. Are employees and/or customers exposed to sewage?

## **Operation Ability and Capacity**

Determine whether the facility can remain open or if parts of the facility can remain operational. Consider the following:

1. Has the Regulatory Authority been consulted as appropriate?
2. Are specific steps identified to address each area and the effected equipment that is no longer operable due to a drainage problem?
3. Are back-up or temporary systems available?
4. Can contaminated areas and/or equipment be isolated?
5. Can a safe food environment and operation be assured?
6. Does remaining open provide assistance to the community and those in need?
7. Can alternative procedures be used to meet food safety or other applicable requirements? These may include critical infrastructure and services such as:
  - a. Food handling or preparation practices and procedures
  - b. Equipment used for sanitation
  - c. Utensil sanitation
  - d. Linen use and laundering
  - e. Single service/use item supply and practicality including waste handling
  - f. Employee health and hygiene practices

A food establishment manager (or the “Person-in-Charge”) is responsible for conducting both initial and ongoing assessments to ensure consistent compliance with food safety requirements.

### **III. Business Continuity During a Sewage Backup**

The following are temporary alternative procedures that can be taken to address specific affected food operations and facilities during a sewage backup. Consider discussing your emergency plan with your regulatory authority prior to reopening a previously closed section of the food establishment. In some cases, the Regulatory Authority may want to pre-approve your plan or temporary procedures.

#### **Continuous Overflow of Sewage into the Establishment**

Discontinue operations if sewage continues to backup into the facility from a floor drain, toilet, sink or other appliance(s).

#### **Affected Operations and Areas**

Following are general guidelines when sewage from equipment directly connected to the plumbing system is either slow to drain or does not drain:

1. Discard all contaminated food.
2. Remove the affected equipment/fixture from service.
3. Remove the obstruction or call a service company.

4. All equipment, utensils and environmental surfaces in contact with sewage must be cleaned and disinfected prior to being used or placed back into use and service. Follow disinfectant use instructions listed on EPA registered label, or the procedure approved by local authorities. [Note: Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these situations. Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]
5. When food contact surfaces are affected, clean and disinfect contaminated areas first and then follow with a rinse and sanitize prior to use.
6. Isolate and keep foot traffic away from areas that are flooded or wet from sewage.
7. Use other appliances or fixtures in the establishment that are properly operating.

## Handwashing

*Remember* - if no handwashing sinks are operational and no alternative handwashing facilities can be set up, food preparation **must** cease, and only pre-packaged food may be served.

1. When prepackaged foods are provided, the following must also be available if hand wash facilities are unavailable in the immediate area where the prepackaged food is handled:
  - a. Approved hand antiseptics or chemically treated towelettes must be used for cleaning hands; and
  - b. An operational handwashing sink or a handwashing set-up (as described in Section 2 below) must be provided for use in the immediate area of a toilet facility; and
  - c. A toilet facility, as described in the toilet section below, must be conveniently located and accessible. For example, locate the toilet facility within 200 feet of the food establishment's entrance.
2. When a facility has no operational handwashing sinks, but an alternative handwashing facility can be set up, the following procedures must be followed if food production is to continue:
  - a. A "gravity flow" handwashing set-up using potable water (e.g. commercially bottled water) in a clean, sanitized container with a continuous-flow type spigot allowing water to flow over one's hands into a catch bucket.
  - b. The catch bucket must be emptied into an operational drain such as a janitor sink or toilet.
  - c. Hands must be washed after emptying the catch bucket and before returning to food handling operations.
  - d. Suitable, dispensable hand soap, disposable towels, and a waste receptacle at designated hand wash stations must be provided.
  - e. Ready-to-eat foods may not be touched with bare hands.

- f. Suspend bare hand contact even if this process has been approved as an alternate procedure.
3. A handwashing sink that is backing up or not draining properly must be labeled or otherwise identified to prevent its use until draining issues are resolved.

### **Toilet Facilities**

A toilet that is not operational must be properly posted to prevent further use. If there are no operational toilets accessible to employees during all hours of operation that can be used until service is restored, discontinue operation until toilet facilities are available.

When permitted or approved by the Regulatory Authority, use of portable mobile toilet facilities or alternate toilet facilities are acceptable provided they:

1. Are conveniently located and accessible. For example, locate the toilet facility within 200 feet of the food establishment's entrance.
2. Are properly ventilated, maintained and serviced in a manner that will not contaminate food or create a nuisance.
3. Have adequate handwashing facilities in the immediate vicinity of the toilet(s). Adequate handwashing facilities can include a "gravity flow" handwashing set-up as described in Section 2 of the Handwashing section.

When toilet facilities are not operational due to a lack of water for flushing, their use may be continued provided:

1. There is no sewage back up, and
2. There is an alternate supply of potable water that can be dumped into the toilet to flush waste down the drain.

### **Culinary and Prep Sinks**

If all of the sinks used for thawing food, washing fruits and vegetables, cooling food, etc., do not drain, the following alternative procedures can be implemented:

1. Thaw food in the refrigerator or as part of the cooking process.
2. Use pre-washed packaged produce.
3. Use frozen/canned fruits and vegetables that do not require washing.
4. Use alternate cooling methods.
5. Modify the menu to avoid procedures requiring the use of a culinary/prep sink.

### **Warewashing Equipment**

If utensils and equipment cannot be properly cleaned and sanitized, or if dish machines, three compartment sinks, pot sinks or similar equipment do not drain, the following alternative procedures can be implemented:



1. Discontinue dish/utensil washing and use single service/use items.
2. Discontinue affected operations after supply of clean equipment, utensils, and single service items is exhausted.

### **Janitor / Utility Sink**

If other sinks such as janitor or utility sinks do not drain discontinue their use and identify them in such a way to prevent further use. Liquid cleaning waste water requires disposal into the sanitary waste drainage system. Alternate disposal of liquid cleaning waste water can include:

1. Dump mop or cleaning waste water into a toilet.
2. Use existing floor drains in areas not impacted.
3. Use adjacent or neighboring facilities if practical.

Discontinue operation if the physical facility cannot be maintained in a sanitary condition.

### **IV. Recovery Following a Sewage Backup**

Recovery involves the necessary steps for returning to normal, safe business operations including re-opening if the facility had to close as a result of the sewage backup.

Regulatory authorities may have to approve returning to regular operations; check with local requirements. A food establishment or an area within the facility that was ordered to cease operations due to an imminent health hazard may not re-open until authorization has been granted by the Regulatory Authority..

### **Corrective Action**

Take corrective action to eliminate the cause of the sewage back-up.

1. In the case of plugged drain lines, the permit holder should consider the following:
  - a. Contact a service company to find and remove the obstruction.
  - b. Replace worn or damaged plumbing as needed.
2. If the onsite sewage disposal system is malfunctioning, consider the following:
  - a. Contact the local health department for permit requirements.
  - b. Contact a sewage pumping contractor to pump the septic tank and haul away sewage to an approved disposal site until repairs can be made.
  - c. Contact a sewage disposal system installation contractor to arrange for repairs.

## **Sewage Clean-Up**

All equipment, utensils and environmental surfaces in contact with sewage must be cleaned and disinfected prior to being used or placed back into use and service. Follow the disinfectant use instructions listed on the EPA registered label, or the procedure approved by local authorities. [Note: Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these situations. Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]

When food contact surfaces are affected, clean and disinfect contaminated areas first and then follow with a rinse and sanitize prior to use.

Sewage clean-up procedures should include:

1. Disposal and replacement of cleaning equipment or tools that cannot be decontaminated after use for sewage clean-up activities.
2. Procedures to ensure that employees do not walk between the affected area and other areas of the establishment without removing footwear and protective clothing.
3. Adherence to OSHA rules for handling detergents, sanitizers, and other chemicals used in the cleaning process.

## **Employee Safety and Protection**

During the clean-up process, be aware of employee safety and protection needs. Employees should immediately report to the manager any injuries or exposures during clean-up. Examples of items/procedures that may be needed for clean-up include:

1. Eye protection.
2. Rubber boots that can be washed and disinfected after use.
3. Protective clothing such as coveralls or disposable outer garments.

Require double handwashing immediately after working with contaminated materials and before engaging in any food preparation activities such as handling exposed food, clean equipment and utensils, and unwrapped single service/use articles.

Double handwashing procedures should include:

1. Clean hands and exposed portions of the arms using a cleaning compound in a lavatory that is properly equipped by vigorously rubbing together the surfaces of their lathered hands and arms for at least 20 seconds and thoroughly rinsing with clean water. Repeat.
2. Dry hands using disposable towels.
3. Use a disposable towel to turn off the water to prevent re-contaminating the hands.
4. Follow-up with a hand antiseptic.

5. Clean and disinfect lavatory faucets and other portions of the lavatory after use to prevent transferring any contamination to food handlers.

## General Cleaning Procedures

1. Remove any standing sewage as soon as possible and prior to starting clean-up procedures. Sewage can contain pathogens that could become a source of contamination and therefore clean-up requires disinfecting affected areas, equipment, surfaces, cleaning tools and utensils.
  - a. Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these situations or use chlorine solutions at 1000 to 5000 parts per million (5–25 tablespoons of household bleach [5.25%] per gallon of water. [Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]
  - b. It is recommended that you calculate solutions prior to an emergency and test surface compatibility with bleach prior to use since bleach may be corrosive to metals or incompatible with other surfaces resulting in discoloration or “bleaching.”
  - c. Follow product’s EPA registered label or manufacturer’s instructions.
2. Disinfect the floors, walls and other affected areas by using an approved disinfectant.
  - a. Certain absorbent wall and insulation materials are especially susceptible to mold and should be removed and replaced as soon as possible.
  - b. Clean and disinfect any utensils, equipment and surfaces in the affected area.
  - c. When food contact surfaces are affected, clean and disinfect contaminated areas first and then follow with a rinse and sanitize prior to use.
3. Air-dry the affected areas, utensils, surfaces and equipment.
4. Discard mop heads and other cleaning tools/aids that contacted the sewage.
5. Alternative measure: Hire a janitorial service having expertise in cleaning food establishments exposed to sewage backups.
6. Unsalvageable food, food equipment, and all single service items, packaged or unpackaged, that came in contact with sewage must be destroyed and properly disposed.

**WARNING: Always use extreme caution when working on or restarting equipment with electrical components.**

## Cleaning Contaminated Linens and Uniforms

Linens or uniforms contaminated by sewage must be discarded or alternatively, they can be professionally laundered prior to use.

If these items are to be laundered, they should be cleaned by a commercial laundry service that can properly disinfect the items.

## General Food Salvage Assessment

Discard any food or food packaging materials that have come in contact with sewage. Food items in soft packaging or with screw-top lids must be destroyed. In some cases canned goods in metal cans or rigid plastic containers can be saved. The condition of the can or container should be evaluated since the presence of rust, soil, or other contaminants or destroyed labeling precludes salvage. Contact the local regulatory authority concerning the salvaging and destruction of food.

**Discard** the following foods if sewage has covered, splashed, dripped on or seeped into the package:

1. Alcoholic beverages
2. Exposed foods, bulk foods, fresh produce, meat, poultry, fish and eggs
3. Any foods packaged in paper, plastic, cloth, or fiber
4. Cardboard boxes, even if the contents seem dry, including cereals, pasta products, rice, salt
5. Foods with cardboard seals, such as mayonnaise and salad dressing, or foil or cellophane packages
6. Food in glass jars, including unopened jars with waxed paper, foil, cellophane or cloth covers
7. Foods, liquids or beverages in crown-capped bottles or containers with pull-tab tops, corks or screw caps
8. All opened containers and packages
9. Foods in bags or canisters
10. Cans that are dented, leaking, bulging or rusted
11. Cans with damaged labels (Cans without all required labeling information cannot be sold).

## Salvaged Goods – Reconditioning

If the quantities of food involved are large (e.g., a large supermarket or a food warehouse) it may be feasible to attempt salvage for either human or animal consumption. The items must either be destroyed or moved to an approved location that has reconditioning capability. Such movement should be coordinated with state officials and/or FDA.

## Disposal of Food

If it is determined that food must be discarded, consider the following actions:

1. Place food to be discarded in a designated condemned food storage area away from food preparation, other food and equipment storage. Secure food in covered refuse containers or by other means in a designated area to prevent the food from being put back into stock rotation or from being served. Assure that the food cannot accidentally contaminate other food or the facility.

2. The Regulatory Authority and/or insurance companies may request that you document the type and amount of food being discarded/disposed. If the food is temporarily retained, it must be clearly labeled or marked as "NOT FOR SALE".
3. Discarded refrigerated food may be temporarily stored in a refrigerated location separate from other food. (Note: Refrigerated units must be thoroughly washed and disinfected after the contaminated food is removed.)
4. Food to be disposed should be stored in covered refuse containers or by other means in a secure location and disposed of by a refuse disposal company as soon as possible.
5. All food waste is to be disposed of in accordance with state and local waste disposal regulations in a licensed landfill.
6. Local landfills should be contacted prior to delivery of food from a private individual or carrier to ensure acceptance of the waste.

## **Flood**

### **I. Planning for Response to a Flood Emergency**

*Following a flood, it is recommended that the permit holder note the date and time of the event. The PIC should assess the situation and implement emergency procedures. Immediately discontinue operation if a safe operation cannot be maintained or if food safety cannot be assured using an alternative procedure. If there is a significant threat or danger to health, then an Imminent Health Hazard may exist and the permit holder should immediately discontinue operations and notify the Regulatory Authority. Consider discussing your emergency plan with the Regulatory Authority. Emergency action plans should be available on-site for review. In some cases, the Regulatory Authority may want to pre-approve your plan.*

Flood water can contain pathogens that could become a source of contamination on equipment, environmental surfaces, cleaning tools, employee and/or customer shoes and clothing. Limiting contamination from flood water requires control of affected areas and preventing contact of flood water with equipment, people, food and packaging.

In developing your written food safety emergency plan, think about the decisions you will have to make if there is a flooding incident within the establishment. Consider alternative operations, how to limit operations to ensure a safe operation, when to discontinue operations, and cleaning and sanitizing. The following are some tasks you may want to include in your plan as appropriate.

1. Maintain current information for emergency contacts such as repair companies and service providers, cleaning/sanitizing company, and local regulatory authority.
2. Monitor the National Weather Service and NOAA websites to determine potential tidal crests and estimated times of high tide or rivers cresting to plan accordingly.
3. Develop a plan to move food items and packaging materials to an alternate location to avoid contact with flood water.
4. Identify equipment/supplies needed to handle a flood incident.
5. Identify emergency cut-off valves, back-siphonage preventers and water supply lines.
6. Maintain an inventory of cleaning/sanitizing supplies, disposable gloves, hand soaps, hand sanitizers, disinfectants and emergency personal protective equipment. [Note: Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these situations. Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]

7. If possible, have a drainage schematic that identifies how the waste drainage system is designed. This will help identify drains and equipment that may be impacted by a flood.

## **II. Assessing the Impact of a Flood**

In your assessment of a flood emergency, consider the nature, scope and anticipated duration of the emergency; the potential impact on your operation; your ability to ensure the safety of food; and the potential impact on public health of both employees and customers.

### **Nature, scope and duration**

The nature and scope of a flood will determine which steps in the emergency procedures need to be implemented. A flood may affect only a single facility or it may impact multiple facilities within a geographic area. The amount and depth of flood water can vary greatly and drainage systems may not be able to handle the excess volume of water for an extended period of time. The cause of the flood, such as heavy rain over a period of days, a sudden hurricane or a water line leak will determine the impact on the facility and how long the flooding continues. Floods may also impact other systems such as electrical power.

### **Potential Impact on Operations**

Determine what areas, systems, equipment, food, and packaging may be impacted by a flood. Consider the following:

1. Site access and safety. Submerged electrical equipment may create an electrocution hazard.
2. Food and packaging materials that may come in contact with flood water.
3. Areas where equipment and supplies could potentially come in contact with flood water.
4. Procedures such as handwashing, warewashing, cleaning and sanitizing that may be disrupted. Other systems that may be disrupted such as electrical power, potable water supply, sewage drainage and waste disposal.
5. Special removal procedures of nonfood hazardous waste items affected by flood waters such as batteries, fluorescent lights, and chemicals.

### **Food Safety Considerations**

During a flood a primary concern is for food safety. Ask these questions:

1. Can you implement your food safety plan under the circumstances of the emergency?
2. Are food and/or food equipment and surfaces exposed to flood water?

## **Public Health Considerations**

During a flood one of the primary concerns is to protect the health of employees and customers. Ask these questions:

1. Is there an imminent health hazard that would not permit a safe operation?
2. Could employees and/or customers be exposed to flood water or safety hazards such as submerged objects or electrical hazards?

## **Operation Ability and Capacity**

Determine whether the facility can remain open or if parts of the facility can remain operational. Consider the following:

1. Has the Regulatory Authority been consulted as appropriate?
2. Are specific steps identified to address food, packaging materials, equipment, surfaces, supplies, and hazardous waste that are no longer safe to use or sell?
3. Are back-up or temporary systems available?
4. Can flooded areas be isolated?
5. Can a safe food environment and operation be assured?
6. Does remaining open provide assistance to the community and those in need?
7. Can alternative procedures be used to meet food safety or other applicable requirements? These may include critical infrastructure and services such as:
  - a. Food handling or preparation practices and procedures
  - b. Equipment used for sanitation
  - c. Utensil sanitation
  - d. Linen use and laundering
  - e. Single service/use item supply and practicality including waste handling
  - f. Employee health and hygiene practices
  - g. Temporary dumpsters for waste removal

A food establishment manager (or the “Person-in-Charge”) is responsible for conducting both initial and ongoing assessments to ensure consistent compliance with food safety requirements.

## **III. Business Continuity During a Flood**

The following are temporary alternative procedures that can be taken to address specific affected food operations and facilities during a flood. Consider discussing your emergency plan with your regulatory authority prior to any flood incident. In some cases, the Regulatory Authority may want to pre-approve your plan or temporary procedures.

### **Affected Operations**

Flooding can impact an isolated area or the entire facility. Immediately discontinue operations if a safe operation cannot be maintained using an alternative procedure.



*Note:* If flooding is the result of sewage backup or sewage drainage failure refer to the section of this document called *Sewage Backup*.

### **Isolated or Minor Flooding**

When flood water can be isolated, such as when caused by a water line leak, unaffected areas of the establishment may remain open while repairs/recovery take place.

1. Isolate the affected area(s) and prevent traffic from flooded areas to unaffected areas.
2. Discard all contaminated food, packaging materials and utensils.
3. Remove affected equipment from service.
4. All equipment, utensils and environmental surfaces in contact with flood water must be cleaned and disinfected prior to being used or placed back into use and service. Follow disinfectant use instructions listed on EPA registered label, or the procedure approved by local authorities. [Note: Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these situations. Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]
5. When food contact surfaces are affected, clean and disinfect contaminated areas first and then follow with a rinse and sanitize prior to use.
6. Food, packaging materials, utensils, equipment, clean linens and single service/use items not affected by flood water can be used.

### **Flooding in a Food Establishment**

Flood water due to the overflow of a body of water, poor surface drainage, a major break in a water line, a weather emergency, etc. can affect food, packaging materials, utensils, equipment, linens and single service/use items.

When flood water impacts the facility and cannot be isolated or contained, discontinue operations.

### **IV. Recovery Following a Flood**

Recovery involves the necessary steps for returning to normal, safe business operations including re-opening if the facility had to close as a result of flooding.

Regulatory authorities may have to approve returning to regular operations; check local requirements. A food establishment or an area within the facility that was ordered to cease operations due to an imminent health hazard may not re-open until authorization has been granted by the Regulatory Authority.

## **Flood Water Clean-Up**

All equipment, utensils and environmental surfaces in contact with flood water must be cleaned and disinfected prior to being used or placed back into use and service. Follow the disinfectant use instructions listed on the EPA registered label, or the procedure approved by local authorities. [Note: Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these situations. Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]

The following clean-up procedures are recommended following a flood event:

1. Sort the salvageable from the non-salvageable foods. (See section below on Food Salvage Assessment).
2. Determine what equipment, utensils, linens, and single service items can be salvaged as quickly as possible.
3. Properly dispose of the non-salvageable items.
4. Segregate hazardous waste from non-hazardous material before disposal.
5. Dispose and replace cleaning equipment or tools that cannot be decontaminated after use for flood clean-up activities.
6. Contact the local building department and other appropriate agencies to determine if the building structure is safe and approved for occupancy.

## **Employee Safety and Protection**

During the clean-up process, be aware of employee safety and protection needs. Employees should immediately report to the manager any injuries or exposures during clean-up. Examples of items/procedures that may be needed for clean-up include:

1. Eye protection.
2. Rubber boots that can be washed and disinfected after use.
3. Protective clothing such as coveralls or disposable outer garments.
4. Employees should not walk in affected areas until it is determined that it is safe to do so to ensure no electrical or hidden physical hazards exist.
5. Employees should not walk between the affected area and other areas of the establishment without removing footwear and protective clothing.
6. Follow OSHA rules for handling detergents, sanitizers, disinfectants and other chemicals used in the cleaning process.

Require double handwashing immediately after working with contaminated materials and before engaging in any food preparation activities such as handling exposed food, clean equipment and utensils, and unwrapped single service/use articles.

Double handwashing procedures should include:

1. Clean hands and exposed portions of the arms using a cleaning compound in a lavatory that is properly equipped by vigorously rubbing together the surfaces of

their lathered hands and arms for at least 20 seconds and thoroughly rinsing with clean water. Repeat.

2. Dry hands using disposable towels.
3. Use a disposable towel to turn off the water to prevent re-contaminating the hands.
4. Follow-up with a hand antiseptic.
5. Clean and disinfect lavatory faucets and other portions of the lavatory after use to prevent transferring any contamination to food handlers.

## General Cleaning Procedures

The following are general cleaning procedures and corrective actions following a flood event. Alternatively, you may hire a janitorial service having expertise in cleaning food establishments exposed to flood water.

To prevent mold and mildew growth, corrective actions should be implemented as soon as possible after the flood waters recede.

1. Remove any standing water as soon as possible and prior to starting clean-up procedures. Standing water may be located beneath floors where refrigeration or electrical conduits are located and this water must be removed as part of the clean up).
2. Flood waters can contain pathogens that could become a source of contamination and therefore clean-up requires disinfecting affected areas, equipment, surfaces, cleaning tools and utensils.
  - a. Disinfectants identified by the food establishment for use during vomiting and diarrheal events (e.g. norovirus) would be suitable for these situations or use chlorine solutions at 1000 to 5000 parts per million (5–25 tablespoons of household bleach [5.25%] per gallon of water. [Reference: Supplement to the 2009 FDA Food Code §2-501.11 – Clean-up of Vomiting and Diarrheal Events.]
  - b. It is recommended that you calculate solutions prior to an emergency and test surface compatibility with bleach prior to use since bleach may be corrosive to metals or incompatible with other surfaces resulting in discoloration or “bleaching.”
  - c. Follow product’s EPA registered label or manufacturer’s instructions.
3. Disinfect the floors, walls and other affected areas by using an approved disinfectant.
  - a. Certain absorbent wall and insulation materials are especially susceptible to mold and should be removed and replaced as soon as possible.
4. Clean and disinfect any utensils, equipment and surfaces in the affected area.
  - a. When food contact surfaces are affected, clean and disinfect contaminated areas first and then follow with a rinse and sanitize prior to use.
5. Air-dry the affected areas, utensils, surfaces and equipment.
6. Discard mop heads and other cleaning tools/aids that contacted the flood water.
7. Alternative measure: Hire a janitorial service having expertise in cleaning food establishments exposed to sewage backups.

8. Unsalvageable food, food equipment, and all single service items, packaged or unpackaged, that came in contact with flood water must be destroyed and properly disposed.
9. Hazardous waste that came in contact with flood water must be properly disposed.

**WARNING: Always use extreme caution when working on or restarting equipment with electrical components.**

### **Cleaning Contaminated Linens and Uniforms**

Linens or uniforms contaminated by flood water must be discarded or alternatively, they can be professionally laundered prior to use.

If you choose to launder these items, they should be cleaned by a commercial laundry service that can properly disinfect the items.

### **Mold**

Refer to the EPA Website for additional information on mold remediation in commercial buildings: [http://www.epa.gov/mold/mold\\_remediation.html](http://www.epa.gov/mold/mold_remediation.html)

### **Walk-In Cooler Restoration**

In general, the walk-in cooler in a flooded food service facility needs to be reviewed on a case by case basis. Following are guidelines to help with your assessment:

1. If the inside of the cooler has a quarry tile floor with six inch sealed coving, and the water did not flood over the coving, the interior surface can be cleaned and disinfected with a solution of 2½ tablespoons chlorine bleach (5.25% concentration) in a gallon of water.
2. If the inside of the cooler has walls that sit directly on the floor, and the caulking seal is intact, the cooler walls can be cleaned and disinfected with one cup bleach per four gallons water.
3. If the inside of the walk-in cooler was damaged by holes or cuts, and the flood water rose above those holes or cuts, the entire panel will need to be replaced.
4. On a free-standing walk-in, the panels can be disassembled, cleaned and disinfected to remove the debris below the panel. This would apply when the cooler wall did not have a satisfactory seal at the wall and floor juncture.
5. Flooded walk-in coolers with a permeable wood floor need to have the floor replaced.
6. Walk-in coolers sitting directly on the floor with an aluminum interior floor should have the floor raised and power washed below the floor to remove debris.

## **Safety Guidelines for Building Entry and Occupancy**

Check with the Regulatory Authority, local building inspectors, OSHA or other authorities to determine if all safety codes have been met prior to building entry and occupancy.

### **Food Salvage Assessment**

Flood waters may carry debris, sewage, oil, chemical waste and other contaminants that can make water-damaged foods unsafe to eat. Discard any food or food packaging materials that have come into contact with flood water. Food items in soft packaging or with screw-top lids must be destroyed. In some cases canned goods in metal cans or rigid plastic containers can be saved. The condition of the can or container should be evaluated since the presence of rust, soil, or other contaminants or destroyed labeling precludes salvage. Contact the local regulatory authority concerning the salvaging and destruction of food.

**Discard** the following foods if sewage has covered, splashed, dripped on or seeped into the package:

1. Alcoholic beverages
2. Exposed foods, bulk foods, fresh produce, meat, poultry, fish and eggs
3. Any foods packaged in paper, plastic, cloth, or fiber
4. Cardboard boxes, even if the contents seem dry, including cereals, pasta products, rice, salt
5. Foods with cardboard seals, such as mayonnaise and salad dressing, or foil or cellophane packages
6. Food in glass jars, including unopened jars with waxed paper, foil, cellophane or cloth covers
7. Foods, liquids or beverages in crown-capped bottles or containers with pull-tab tops, corks or screw caps
8. All opened containers and packages
9. Foods in bags or canisters
10. Cans that are dented, leaking, bulging or rusted
11. Cans that have been tossed about and are far from their normal storage spot (possibility of pinholes or seam fractures)
12. Cans with damaged labels (Cans without all required labeling information cannot be sold)

### **Salvaged Goods – Reconditioning**

If the quantities of food involved are large (e.g., a large supermarket or a food warehouse) it may be feasible to attempt salvage for either human or animal consumption. The items must either be destroyed or moved to an approved location that has reconditioning capability. Such movement should be coordinated with state officials and/or FDA.

## **Disposal of Food and Hazardous Waste**

Consider the following actions if it is determined that food or hazardous waste such as batteries, fluorescent lights, chemicals, etc. must be discarded:

1. Place food to be discarded in a designated condemned food storage area away from food preparation, other food and equipment storage.
  - a. Secure food in covered refuse containers or by other means in a designated area to prevent the food from being put back into stock rotation or from being served.
  - b. Assure that the food cannot accidentally contaminate other food or the facility.
2. Place hazardous waste to be discarded in a designated condemned haz-mat storage area away from contaminated foods to be discarded.
  - a. The haz-mat area should be away from food preparation, other food and equipment storage areas.
  - b. Secure hazardous waste in covered refuse containers or by other means in a designated area to prevent it from being put back into stock rotation or from being used or sold.
3. The Regulatory Authority and/or insurance companies may request that you document the type and amount of food being discarded/disposed. If the food or hazardous material is temporarily retained, it must be clearly labeled or marked as "NOT FOR SALE".
4. Discarded refrigerated food may be temporarily stored in a refrigerated location separate from other food. (Note: Refrigerated units must be thoroughly washed and disinfected after the contaminated food is removed.)
5. Food to be disposed should be stored in covered refuse containers or by other means in a secure location and disposed of by a refuse disposal company as soon as possible.
6. All food and hazardous waste is to be disposed of in accordance with state and local waste disposal regulations in a licensed landfill or approved facility.
7. Local landfills should be contacted prior to delivery of food from a private individual or carrier to ensure acceptance of the waste.

## **Wells**

If you have a well serving an establishment, and the well was covered by flood water, it must be treated and tested prior to use. Contact your local health department or other regulatory authority for complete instructions on chlorination or needed treatment.

## **Sewage Systems**

If the septic tank system was flooded, call your local health department or other regulatory authority for an evaluation of the system before using it. Flooded systems may malfunction without proper attention.

## **Fire**

*For the purpose of this emergency guidance, a non-reportable fire is any small confined fire in a food establishment that does not contaminate food and has been extinguished using a simple device such as a hand-held fire extinguisher, wet towel, pan lid, etc. All other fires should be reported to the Regulatory Authority. Consider discussing your emergency plan with the Regulatory Authority. Emergency action plans should be available on-site for review. In some cases, the Regulatory Authority may want to pre-approve your plan.*

For the purpose of this emergency guidance, a non-reportable fire is any small confined fire in a food establishment that does not contaminate food and has been extinguished using a simple device such as a hand-held fire extinguisher, wet towel, pan lid, etc. All other fires must be reported to the Regulatory Authority.

### **I. Planning for Response to a Fire**

In developing your written food safety emergency plan, think about the decisions you will have to make if there is a fire within the establishment. Consider alternative operations, how to limit operations to ensure a safe operation, when to discontinue operations, and cleaning after the event. The following are some tasks you may want to include in your plan as appropriate.

1. Maintain current information for emergency contacts such as fire department, service providers, cleaning/sanitizing company, and local regulatory authority.
2. Develop an emergency evacuation plan for employees and customers.
3. Develop a plan to assess what food, facilities and equipment can be salvaged after a fire.
4. Identify equipment/supplies needed to respond to a fire and the follow-up.
5. Identify electrical connections that may have to be cut off or disconnected if there is a fire.

### **II. Assessing the Impact of a Fire**

Assess the situation and immediately discontinue operations if a safe operation cannot be maintained using an alternative procedure. Follow the appropriate emergency procedures if approved by the Regulatory Authority or remain closed until granted approval to re-open by the Regulatory Authority.

In your assessment, consider (1) the nature, scope and anticipated duration of the emergency; (2) the potential impact on your operation; (3) your ability to ensure the safety of food; and (4) the potential impact on public health of both employees and customers.

## **Nature, scope and duration**

The nature and scope of a fire will determine which steps in the emergency procedures need to be implemented. A fire may affect only a portion of the facility or it may impact a major portion or the entire facility. The cause of the fire (i.e. electrical, grease, mechanical) may affect the impact on the facility. Fires may also impact other systems such as electrical power.

## **Potential Impact on Operations**

Determine what areas, systems, equipment, food and packaging may be impacted by the fire. In addition to fire and smoke damage, also consider the impact of water, foam and other processes used to fight the fire such as use of high pressure fire suppression devices (i.e. ventilation hood fire suppression system or professional fire department equipment).

Consider the following:

1. Food and packaging materials
2. Equipment and supplies
3. Other systems that may be disrupted such as electrical power
4. Building integrity and site access

## **Food Safety Considerations**

Following a fire, a primary concern is food safety. Ask these questions:

1. Can you implement your food safety plan under the circumstances of the emergency?
2. Has food and food packaging been exposed to fire and/or smoke?

## **Public Health Considerations**

Following a fire, one of the primary concerns is to protect the health of employees and customers. Ask these questions:

1. Is there an imminent health hazard that would not permit a safe operation?
2. Is appropriate personal protective equipment available?

## **Operation Ability and Capacity**

Determine whether the facility can reopen or if parts of the facility can be used. Consider the following:

1. Has the Regulatory Authority been consulted as appropriate?
2. Has a building inspector, fire department or other appropriate authority been consulted to determine if the building structure is safe and approved for occupancy?



3. Are specific steps identified to address food, packaging materials, equipment, surfaces and supplies that have been affected by smoke and fire?
4. Are back-up or temporary systems available?
5. Can fire-affected areas be isolated?
6. Can a safe food environment and operation be assured?
7. Can alternative procedures be used to meet food safety or other applicable requirements? These may include critical infrastructure and services such as:
  - a. Food handling or preparation practices and procedures
  - b. Cleaning and sanitation

A food establishment manager (or the “Person-in-Charge”) is responsible for conducting both initial and ongoing assessments to ensure consistent compliance with food safety requirements.

### **III. Business Continuity Following a Fire**

The following are temporary alternative procedures that can be taken to address specific affected food operations as a result of a fire. Consider discussing your emergency plan with your regulatory authority prior to any incident. In some cases, the Regulatory Authority may want to pre-approve your plan or temporary procedures.

#### **Affected Operations**

##### **Confined or limited fire**

If the fire is confined to a small area or a single piece of equipment, and the fire can be extinguished with a simple fire-fighting device (i.e. hand held extinguisher), extensive clean-up may not be required. Unaffected areas of the establishment may remain open while clean-up and minor repairs are made.

##### **Extensive fire damage**

If a fire causes extensive damage to equipment and the facility’s structure, or if smoke has had an impact on food and packaging, discontinue operations. Resume operations only after recovery steps have been completed and the Regulatory Authority has been consulted.

### **IV. Recovery**

Recovery involves the necessary steps for re-opening and returning to a normal safe operation. The Regulatory Authority may have to approve re-opening a facility damaged by fire and/or smoke.

#### **Action Steps Prior to Re-Opening**

1. Contact the local building department and other appropriate agencies to determine if the building structure is safe and approved for occupancy.

2. Sort the salvageable from the non-salvageable items including foods, packaging materials, single-use service items, and equipment.
3. Properly dispose of the non-salvageable food items.
4. Provide general clean-up. Clean and sanitize equipment and utensils.

### General Cleanup Procedures

1. All areas affected by the fire, including those affected by smoke and water, must be cleaned and sanitized.
2. All affected food products, packaging materials, equipment, utensils, linens, and single service/use items must be cleaned and sanitized or removed from the premises as necessary.
3. Smoke and its resulting damage may have to be removed by a professional restoration company and/or the use of air purifiers, ozone generators, ionizers or other equipment specifically used for this purpose.

### Employee Safety and Protection

During the clean-up process, be aware of employee safety and protection needs. Employees should immediately report to the manager any injuries or exposures during clean-up. Examples of items/procedures that may be needed for clean-up include:

1. Eye protection
2. Respirators
3. Rubber boots
4. Protective clothing such as coveralls or disposable outer garments
5. Employees should not walk in affected areas until it is determined that it is safe to do so.
6. Employees should not walk between the affected area and other areas of the establishment without removing footwear and protective clothing.
7. Follow OSHA rules for handling cleaning products and other chemicals that may have been used in response to the fire.

### Food Salvage Assessment

The following is a guide for handling specific food items. These recommendations are based on severe fire/smoke damage. The Regulatory Authority may determine the disposition and salvage of some items depending on the severity of fire, smoke and/or water damage. Also in your assessment of salvageable items, consider other contaminants and possibly toxic residues resulting from fire extinguishing materials.

1. **Alcoholic beverages:** Refer to your local regulatory authority for salvage or destruction.
2. **Bottled soft drinks:** Unless protected by a plastic outer wrap or in bottles with sealed screw-on lids, soft drinks in glass bottles are very difficult to salvage. In addition, if soft drinks in plastic bottles have been subjected to excessive heat, fire or smoke, they are almost always deemed not salvageable. Bottle contents

must be drained before returning the containers for deposits. This can be permitted if there are proper facilities for disposing of the liquid and a health nuisance is not created. If such facilities are not available, the product and container may have to be destroyed by removing to a licensed landfill.

3. **Canned soft drinks:** Canned drinks may be salvaged if the contents have not been subjected to excessive heat or fire. The cans must be cleaned and sanitized, if necessary. If the cans have been subjected to excessive heat or are deemed uncleanable, the contents must be destroyed.
4. **Dairy products:** Dairy products must be destroyed with no attempt to salvage if they have been subjected to excessive heat, fire, smoke or water or have been temperature abused due to vulnerable packaging and temperature requirements.
5. **Sugars, candies, flour, cereal products, bakery products, dried beans, rice, and other grains:** If subjected to excessive heat, fire, smoke or water damage, no attempt to salvage such products can be permitted due to vulnerable packaging.
6. **Products in glass with metal screw-type or metal slip covers:** This includes pickles, olives, catsup, steak sauces, salad dressings, syrups, etc. If subjected to excessive heat, fire, or smoke, this type of container is very difficult to clean or disinfect due to exposure of the threaded closure and may have to be destroyed.
7. **Fish and meats – fresh or frozen:** If they have been subjected to excessive heat, fire, smoke and/or water damage or have been temperature abused, these products must be destroyed.
8. **Refrigerated and frozen food:** If refrigerated and frozen foods are stored in a completely enclosed walk in refrigerator or freezer or enclosed case, and electrical service has not been interrupted for extended periods, some product may be salvaged, depending upon the severity of heat, fire, smoke and water and exposure to these elements. Prompt removal of such foods to a suitable storage unit is necessary to save the product.
9. **Produce – fresh or dried:** If exposed to excessive heat, fire, smoke and/or water damage, no attempt to salvage can be permitted and all such products must be destroyed.
10. **Canned goods:** Where the heat and water damage has been minimal, canned goods can be salvaged quickly by cleaning the exterior surfaces and removing them to suitable storage areas, preferably away from the fire scene. Cleaning and re-labeling relatively small quantities of canned goods are usually not attempted because of the cost involved compared to the lower value of the salvaged product.

### **Salvaged Goods – Reconditioning**

If the quantities of food involved are large (e.g., a large supermarket or a food warehouse) it may be feasible to attempt salvage for either human or animal consumption. The items must either be destroyed or moved to an approved location that has reconditioning capability. Such movement should be coordinated with state officials and/or FDA.

## Disposal of Food

If it is determined that food must be discarded, consider the following actions:

1. Place food to be discarded in a designated condemned food storage area away from food preparation, other food and equipment storage.
  - a. Secure food in covered refuse containers or by other means in a designated area to prevent the food from being put back into stock rotation or from being served.
  - b. Assure that the food cannot accidentally contaminate other food or the facility.
2. The Regulatory Authority and/or insurance companies may request that you document the type and amount of food being discarded/disposed. If the food is temporarily retained, it must be clearly labeled or marked as "NOT FOR SALE".
3. Discarded refrigerated food may be temporarily stored in a refrigerated location separate from other food. (Note: Refrigerated units must be thoroughly washed and sanitized after the contaminated food is removed.)
4. Food to be disposed should be stored in covered refuse containers or by other means in a secure location and disposed of by a refuse disposal company as soon as possible.
5. All food and hazardous waste is to be disposed of in accordance with state and local waste disposal regulations in a licensed landfill or approved facility.
6. Local landfills should be contacted prior to delivery of food from a private individual or carrier to ensure acceptance of the waste.