

# AFDO Food Emergency Regulator Pocket Guide 3rd Edition



ASSOCIATION OF FOOD AND DRUG OFFICIALS

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## Preface

From farm to fork, the food supply chain is vulnerable to potential disasters or emergencies that could impact the safety of food and food products used, sold, or served. Recovery involves necessary steps for food businesses to resume normal operations, thus serving the public by ensuring availability of valuable resources. In 2018, the Association of Food and Drug Officials (AFDO) Food Protection and Defense Committee developed this guide to assist Regulators in planning for and responding to disasters or emergencies.

This guide was extensively reformatted and replaces the 2011 AFDO Food Emergency Pocket Guide. The foodborne outbreaks and weapons of mass destruction sections were omitted because they were outside the scope of the guide and other resources (i.e. CIFOR, RRT Best Practices Manual, IAFFP) are available that describe those responses.

To align regulatory and industry responses, this guide is consistent with the Emergency Action Plan for Retail Establishments content and layout. AFDO recognizes the extensive work done by the Conference of Food Protection's Emergency Preparedness/Preparedness and Response/Action Plan Committees of Councils II (2004–2008) and III (2012–2014).

## Purpose

This guide is intended to aid Food Regulatory programs and addresses some common or unique situations that may require emergency responses by Food Regulators in the field.

This guide references the 2017 Food and Drug Administration (FDA) Food Code and is consistent with the FDA Code of Federal Regulations (CFR) to provide uniform regulatory framework with the understanding that each state, local, or tribal agency's statutory authority may vary. For facilities under the United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) jurisdiction, this guide is consistent with the guidance in FSIS Directive 5500.2, Significant Incident Response, other applicable agency directives and Title 9 Chapter III of the Code of Federal Regulations.

## Disclaimer

This guide and its tools, tables, or charts are not binding requirements. The information provided herein is based on professional experience and practical considerations as assembled by selected experts within the AFDO membership. Compliance and enforcement will remain within the interpretations and decisions of state, local, and tribal authorities.

## Acknowledgements

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## Glossary

AFDO – Association of Food and Drug Officials  
ATF - Alcohol, Tobacco, Firearms and Explosives  
CFR – Code of Federal Regulations  
EMI – Emergency Management Institute  
FDA – Food and Drug Administration  
FEMA – Federal Emergency Management Agency  
FBI – Federal Bureau of Investigations  
FC – 2017 FDA Food Code  
FSIS – (USDA) Food Safety and Inspection Service  
HVAC – Heating, ventilation and air conditioning  
ICS – Incident Command System  
NIMS – National Incident Management System  
NOAA – National Oceanic and Atmospheric Administration  
OSHA – Occupational Safety and Health Administration  
PIC – Person in Charge  
PPE – Personal Protective Equipment  
RRT – Rapid Response Teams  
TCS – Time/Temperature Control for Safety  
T/T – Time and Temperature  
USDA – United States Department of Agriculture

## Emergency Planning

All hazards, emergencies, and disasters, whether natural or manmade, accidental or intentional, have potential to cause adverse health and safety implications for large segments of human and animal populations. Disasters may include hurricanes, flooding, tornados, or storm events that can result in an emergency, such as extended loss of power, interruption in water service, or fire. To mitigate the effects of such incidents, regulators must possess the knowledge, resources, and capabilities necessary to prevent, prepare for, rapidly respond to, and assist in recovery from all hazards. This is accomplished through planning and preparation, as Aristotle famously stated, *“Well Begun is Half Done”*.

## Safety

During all responses, safety of regulators and the public is the primary objective. If regulators are operating under the Incident Command System (ICS) structure, the Safety Officer will address safety hazards and mitigation strategies. Otherwise, field staff and supervisors must address hazards that staff may experience, including a combination of chemical, biological,

physical, ergonomic, mental health, and stress hazards. In instances when personal protective equipment (PPE) is required to ensure safety during an emergency response, then equipment must meet industry and safety standards and be properly calibrated and “fitted” to the regulator prior to the event. A safety note is included in each response section of this guide.

## Communication

Effective communication during responses enhances the accuracy and efficiency with which we respond, however during emergencies, clear and timely communication between regulators and other key personnel can be a challenge. Field staff must know to contact their supervisor when made aware of an emergency and to report their status. During emergencies, regulators may be affected by phone outages or overloaded cellular systems and may be unable to communicate with their office. These circumstances necessitate a preestablished Agency Communication Plan.

### • Agency Communication Plan Considerations:

- Identify internal and external response and regulatory partners at federal, state, local, and tribal levels. Include law enforcement contacts for intentional food contamination or if tampering is suspected. To report suspicious activity, call 855-TELL-FBI or 855-835-5324.
- Maintain current and readily available contact information for business hours and after-hours. Identify backup contacts.
- Establish procedures and call-trees for notifying response personnel.
- Identify meeting locations for field staff for times when phone or e-mail communication cannot be made.
- Establish phone numbers, for the public or industry, separate from internal department communication phone numbers.
- Identify staff to handle excessive calls from the public or field.
- Review and update the plan at least annually.

## Training

Training is crucial in preparing field staff to respond effectively, therefore, this section provides best practices and recommended training strategies that may enhance an Agency Training Plan. Regulators must consult their agency training officer to ensure state and federal training standards are met. After completing agency training, regulators should complete continuing education in emergency response courses and the Incident Command System (ICS) courses sponsored by Federal Emergency Management Agency (FEMA).



- **Minimum Recommended Online ICS Courses for Responders:**
  - ☐ ICS 100 – Introduction to the Incident Command System
  - ☐ ICS 200 – ICS for Single Resources and Initial Action Incidents
  - ☐ ICS 700 – National Incident Management System, an Introduction
  - ☐ ICS 800 – National Response Framework, an Introduction

Regulators that serve in a leadership role and/or as ICS Command and General Staff should complete the following:

- **Recommended Classroom ICS Courses:**
  - ☐ ICS 300 – Intermediate ICS for Expanding Incidents
  - ☐ ICS 400 – Advanced ICS for Command and General Staff
  - ☐ All-Hazards Position Specific Courses – (Operations Section Chief, Planning Section Chief, etc.)

The Emergency Management Institute (EMI) within FEMA provides online National Incident Management System (NIMS) courses free of charge and a schedule of classroom courses at [www.training.fema.gov/nims](http://www.training.fema.gov/nims). Regulators may consider attending FEMA’s Center for Domestic Preparedness - Environmental Health Training in Emergency Response to advance their skills.

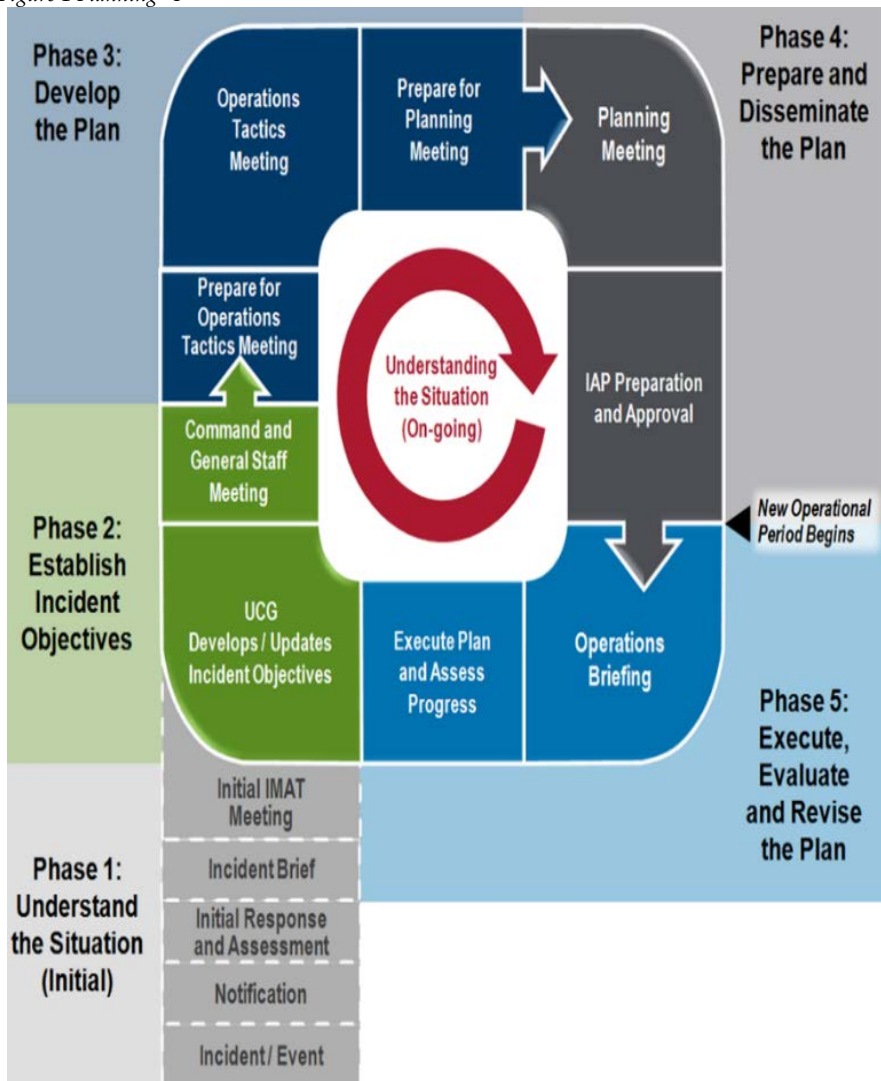
#### Emergency Response Training Considerations:

- ☐ Initial orientation of new responders.
- ☐ Formal classroom and on-the-job training in food inspection, sampling, epidemiological investigation, traceback, ICS, safety, and other foodborne outbreak investigations and technical inspection procedures as identified.
- ☐ Feedback from past responses, after-action reports, and debriefs.
- ☐ Mentoring of new responders by experienced senior member.
- ☐ Team-oriented training with federal, state, and local partners.

## Planning “P”

Strategic response planning lends itself to more efficient use of resources, useful strategies and tactics, improved safety, lower response costs, and increased overall response effectiveness. The Planning “P” guides the planning process during ICS responses, but it is also recommended as a tool to assist in planning for other responses, especially those involving multiple facilities, jurisdictions, or agencies.

Figure 1 Planning “P”



[https://www.fema.gov/media-library-data/20130726-1822-25045-815/incident\\_action\\_planning\\_guide\\_1\\_26\\_2012.pdf](https://www.fema.gov/media-library-data/20130726-1822-25045-815/incident_action_planning_guide_1_26_2012.pdf)

## Equipment/Supplies

Having proper supplies during an emergency will allow for a more efficient and equipped field staff. The following list provides some items that should be available to field regulators during food emergencies.

### Recommended Responder Equipment:

- Disaster policies and protocols
- Emergency contact lists
- Credentials and identification
- Inspection/investigation, seizure/embargo, chain of custody forms
- Laptop, tablet, camera, mobile phone with internet access and charger
- Flashlight with extra batteries
- Thermometers – analog and digital, infrared if available
- Specimen collection kits (food, water, clinical)
- Tamper resistant labeling tape or duct tape
- Multi-use tool or pocket knife
- Activity reports or log book (ICS214)
- Equipment supply requisitions and logs
- Note pad, pens, pencils, permanent markers
- Personal Protective Equipment (PPE): Helmet or head gear, coveralls, boots, nitrile gloves, dust particulate masks, safety goggles, and hearing protection
- Drinking water
- Cash (for personal meals and other expenses)
- Anti-bacterial and alcohol wipes
- First aid kit
- Plastic garbage bags
- Sanitizer concentration testing kits
- Backup batteries for electronics

**Imminent Health Hazard**

The 2017 FDA Food Code defines Imminent Health Hazard as “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. “

**Cease Operation and Reporting (FC 8.404.11)**

(A) Except as specified in ¶ (B) and (C) 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.*

*(C) Considering the nature of the potential hazard involved and the complexity of the corrective action needed, the regulatory authority may agree to continuing operations in the event of an extended interruption of electrical or water service if:*

- (1) A written emergency operating plan has been approved;*
- (2) Immediate corrective action is taken to eliminate, prevent, or control any food safety risk and imminent health hazard associated with the electrical or water service interruption; and*
- (3) The regulatory authority is informed upon implementation of the written emergency operating plan.*

**Resumption of Operations (FC 8-404.12)**

If operations are discontinued as specified in Food Code § 8-404.11 or otherwise according to law, the permit holder shall obtain approval from the regulatory authority before resuming operations.

**Natural Disasters**

Natural disasters, such as earthquakes, flooding, or tornadoes, can strike without warning and Regulatory Agencies must be ready to respond according to the needs of the community. This guide describes response actions that can be applied to many natural disasters. To provide further direction on natural disaster responses, this guide offers a disaster risk assessment tool. The Food Safety Consequences of Disasters Matrix lists high level consequences for a variety of natural disasters and corresponding risk aggregated from a survey of State Rapid Response Teams (RRTs), as supported by FDA. Each box is labeled with a number and color that corresponds to the risk key. The matrix may give agencies a sense of what natural disasters to prepare for based on the likelihood of severe consequences. Agencies may consider customizing the matrix as a preparedness exercise. *Note: Color coding in the chart below is to help regulators visualize increasing risk and does not coordinate with color coding in this Guide.*

Figure 2 Food Safety Consequences of Disasters Matrix (also on back cover)

Food Safety Consequences of Disasters									
Consequence	Earthquake	Hurricane	Tornado	Flood	Drought	Fire	Hazardous Material Release	Winter Storm	
Interruption of Electrical Services	4.0	4.4	4.1	3.9	2.0	3.7	2.5	4.6	
Interruption of Water	4.5	4.3	3.6	4.5	4.0	3.6	3.2	3.7	
Contaminated Water Supply	4.4	4.5	3.7	4.9	3.1	3.0	4.0	3.1	
Sewage Back-Up	4.0	4.2	3.4	4.8	2.6	2.6	2.6	3.0	
Flooding	2.8	4.6	3.0	4.8	1.8	2.1	2.3	2.7	
Fire	3.9	2.6	3.2	2.4	3.9	4.9	3.7	3.0	
Gas Leak	4.3	3.0	3.4	2.7	2.4	3.6	4.0	3.1	
Compromised Structural Integrity	4.5	4.0	4.3	3.7	1.9	4.7	2.4	3.6	
Pest Infestation	2.4	2.8	2.2	2.8	2.3	2.0	1.8	1.8	
Public Concern for Safety	4.7	4.5	4.3	4.3	2.9	4.7	4.6	4.5	
Interruption of Solid Waste	3.2	3.5	3.3	3.9	2.0	2.5	2.4	2.5	
<b>KEY: Risk of Food Safety Consequence by Disaster</b>									
<b>Low</b>		<b>Moderate</b>			<b>High</b>				
1		2			3		4		5

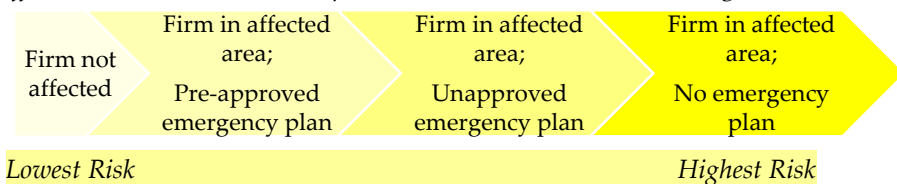
**Emergency Response**

**Disrupted Electrical Service**

*During a sustained interruption of electrical service, a Food Safety Regulator response needs to ascertain the extent of the outage and assess food safety handling practices at affected facilities. Brief interruptions that do not impact food safety may not require a regulatory response. However, if there is a large scale or extended loss of power, regulators will respond to determine if an Imminent Health Hazard exists. Regulatory Agencies should consider the following factors when planning responses to major power outages, and prior to assigning responders.*

1. *Has there been an evacuation or other order that would require the public (including regulators) to leave the area?*
2. *Can Responders safely travel to facilities and safely conduct assessments?*
3. *Are alternative procedures or backup communication systems available?*
4. *Is there a set of assessment questions that all responders should be asking?*

*During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:*



**Planning**

Disruptions in electrical service, or extended power outages are one of the most common emergencies that impact food establishments. Power outages may be short, lasting only a few minutes or hours, but in some cases, the power loss may continue for several days. Pre-incident planning between regulators and industry helps ensure firms are prepared and therefore, considered lower risk. Regulators should encourage facilities to develop emergency action plans for electrical interruptions that include specific details for how the firm will maintain food safety, how and where temperatures will be taken, frequency for monitoring, and how the temperatures will be recorded. Food Regulators may review or pre-approve an emergency plan to ensure it addresses issues and decisions the firm will have to make and minimizes uncertainty when a power outage occurs.

**Disruption of Electrical Service – Facility Plan Considerations:**

- ✓ Identify primary decision maker, Person in Charge (PIC) (FC 2-101.11).
- ✓ Contact power company to determine expected duration of outage.
- ✓ Obtain equipment and supplies such as generators, alternate lighting (may need locality approval), refrigerated trucks, totes to store food, plastic to wrap food, dry ice, etc.
- ✓ Provide a first aid kit with necessary items.
- ✓ Plan for safe operations during the outage, including:
  - identify food departments that will remain open,
  - sell only shelf-stable foods, bottled water, non-food items, or
  - close completely.
- ✓ Maintain or minimize temperature loss (FC 3-501.16):
  - Identify which refrigerated cases to protect with insulated cardboard, covers, or tarps.
  - Identify which refrigerated product to transfer to refrigerated trailers, freezers, or offsite storage.
  - Assign extra employees to cover or move all food products.
  - Use dry ice.
- ✓ Routinely monitor and record temperatures for refrigeration units, freezer units, and product during storage and transport (FC 2-103.11 (I)) with an approved thermometer (FC 4-203.11).
- ✓ Identify action levels for disposing of Time/Temperature Control for Safety (TCS) foods due to improper temperatures (FC 3-501.18):
  - Provide dumpster or compactor for large disposal
  - Contract company for disposal beyond current capacity.

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

**Assessment**

Emergency response assessments during a disruption of electrical service determine whether PICs are ensuring safe operations, especially that TCS foods are safe to hold, sell, or serve. These assessments consider how the nature of the power outage and anticipated duration may impact the firm's ability to manage food safety. If Regulators identify unsafe operations, the unsafe foods are removed from commerce and cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

**Nature, Scope, and Duration**

The nature and scope of an outage will determine the type and complexity of regulatory authority response. Power outages can be placed into one of three broad categories:

<p>Short term or localized</p>	<ul style="list-style-type: none"> <li>• Does not disrupt community infrastructure</li> <li>• Affects one facility or limited area</li> <li>• Short duration-less than four hours</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Large area; no disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• May be of unknown duration</li> <li>• Affect multiple facilities in an area</li> <li>• Regulators conduct extensive coordinated response based on risk</li> </ul>
<p>Large area; disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• Longer anticipated duration due to storms, floods, fires and earthquakes</li> <li>• Regulators conduct extensive coordinated response based on risk</li> <li>• May need alternate communication methods</li> <li>• May have to assess other emergency categories (i.e. water interruption) concurrently</li> </ul>

**Safety**

Regulator safety is priority no matter the incident size, nature, or scope.

**⚠ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. If the building is standing, find out when it will be safe to enter and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area.

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, etc. and use a flashlight as appropriate. Look for damaged ceilings and roof supports, weak floors, and downed power lines. If electrical service is still on in the building, be watchful for loose or exposed wiring. Consider having the firm contact the power company or local authorities to shut-off the power. If there are concerns about in-facility safety, then contact supervisor or Safety Officer IMMEDIATELY.



### ***Food Safety Considerations***

During a power outage, the primary concern for the Regulatory Authority is to quickly assess the operation (or many operations), to verify the following:

1. No imminent health hazard is present. (FC 8-404.11).
2. PIC is ensuring that the firm is safely operating during the power interruption, especially that TCS foods are being handled, stored, or displayed properly. (FC 2-103.11).

If either of the above items cannot be demonstrated, then order closure of the establishment or limit operations until they are safely resumed.

However, if the impact is not too severe, then continued operation may be approved, pending initial and continued demonstration of food safety practices. If the firm is operational, then the firm's emergency operational system and equipment impacted by the power outage will have to be assessed, focusing on the following:

1. TCS foods in the event of a loss of refrigeration, hot-holding, or cooking equipment. (FC 3-501).
2. Temperatures of refrigerated units which are most vulnerable to cold temperature loss, such as open or upright cases.
3. Functionality of water heaters, lighting, refrigeration systems, ice makers, food/beverage dispensing systems, cooking/heating equipment, dish washing machines, sensor-activated handwashing sinks, hand dryers and other equipment/systems (food processing or food service related equipment) that will most likely be inoperative unless other power sources are available.

### **Business Continuity**

If an affected firm intends to continue operations throughout an outage, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices. In most cases, this is accomplished by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.


### ***Emergency Procedures:***



#### ***Refrigeration Equipment***

If the firm wants to continue holding, or selling TCS food, then the PIC must demonstrate that the following criteria will be met. During the assessment, verify that the firm has and will continue to:

1. Record the starting time of the power outage.

2. Routinely monitor and record temperatures of equipment and TCS food from the start of the outage, using an appropriate thermometer (FC 2-103.11 (I), 3-501, 4-302.12).
3. Refrain from placing hot foods into limited capacity cold holding units.
4. Maintain temperatures by any combination of the following:
  - a. Keep refrigeration equipment doors closed.
  - b. Use insulated covers, cardboard, plastic or equivalent for open retail cases without doors.
  - c. Use tape and signs to alert staff to keep walk-in coolers closed and/or seal display case doors to prevent customers from opening them.
  - d. Relocate TCS product from cases that cannot maintain safe temperatures to walk-in coolers, freezers, or refrigerated trucks.
  - e. Use gel, ice packs or dry ice.  
 If dry ice is used, safety precautions must be followed due of possible potential build-up of Carbon Dioxide gas and Oxygen displacement.



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

Guidelines have been developed specifically for cold holding TCS food during a power outage that affects refrigeration temperatures. 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 T/T combination 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. As a regulator, be prepared to provide 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 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. A firm can “start the clock” for monitoring time based on when the power went out, or
- b. A firm can “start the clock” when the food reaches 41°F (5°C) provided they have been checking the food temperature in accordance with their written plan.

<i>Chart 1-Procedures for Handling Refrigerated TCS Food During a Power Outage</i>				
<i>Time (hours)</i>	<i>Product Temperature</i>			
	<i>Max Temp up to 45°F (7°C)</i>	<i>Max Temp up to 50°F (10°C)</i>	<i>Max Temp up to 55°F (13°C)</i>	<i>Max Temp up to 60°F (15°C)</i>
<i>Up to 4</i>	<i>Hold/Serve/Sell</i>	<i>Hold/Serve/Sell</i>	<i>Hold/Serve/Sell</i>	<i>Hold/Serve/ Sell</i>
				<i>At 4 hrs., cook or discard food still over 41°F (5°C)</i>
				<i>If food temp is 41°F (5°C) w/in 4 hrs., then hold/serve/sell.</i>
<i>&gt;4 to 6</i>	<i>Hold/Serve/Sell</i>	<i>Hold/Serve/Sell</i>	<i>Hold/Serve/Sell</i>	<i>Dispose of TCS</i>
			<i>At 6 hrs., cook or discard food still over 41°F</i>	
			<i>If food temp is 41°F (5°C) w/in 6 hrs., then hold/serve/sell.</i>	
<i>&gt;6 to 9</i>	<i>Hold/Serve/Sell</i>	<i>Hold/Serve/Sell</i>	<i>Dispose of TCS</i>	
		<i>At 9 hrs., cook or discard food still over 41°F (5°C)</i>		
		<i>If food temp is 41°F (5°C) w/in 9 hrs., then hold/serve/sell.</i>		
<i>&gt;9 to 15</i>	<i>Hold/Serve/Sell</i>	<i>Dispose of TCS</i>		
	<i>At 15 hrs., cook or discard food still over 41°F (5°C)</i>			
	<i>If food temp is 41°F (5°C) w/in 15 hrs., then hold/serve/sell.</i>			

*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. These types of examples can be discussed with the firm prior to an incident, so firms know what is expected of them.

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.

<b>Outage</b>	<b>Date &amp; Time (Temp was Taken) (Elapsed Time):</b>	<b>Temp (°F)</b>	<b>Disposition</b>
Cooler #2	10/1/17-10:00 PM outage	36°F	Sell or Hold
	12:00 PM-(2 hrs.)	38°F	Sell or Hold
	10/2/17- 2:00 AM-(4 hrs.)	40°F	Sell or Hold
	4:00 AM-(6 hrs.)	41°F	Sell or Hold
	6:00 AM-(8 hrs.)	42°F	Sell or Hold
	8:00 AM-(10 hrs.)	44°F	Sell or Hold
	10:00 AM-(12 hrs.)-power	45°F	Sell or Hold
	12:00 AM-(14 hrs.)	42°F	Sell or Hold
	1:00 PM-(15 hrs.)	41°F	Sell or Hold
<b>Total Time</b>	15 hours	Max temp 45°F, temp at 15 hrs. 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.

<b>Outage Location:</b>	<b>Date &amp; Time (Temp was Taken)- (Elapsed Time):</b>	<b>Temp (°F)</b>	<b>Disposition</b>
Cooler #2	10/1/17-10:00 PM-outage starts	34°F	Sell or Hold
	12:00 PM	36°F	Sell or Hold
	10/2/17- 2:00 AM-Start the	41°F	Sell or Hold
	4:00 AM-(2 hrs.)	42°F	Sell or Hold
	6:00 AM-(4 hrs.)	43°F	Sell or Hold
	8:00 AM-(6 hrs.)	44°F	Sell or Hold
	10:00 AM-(8 hrs.)-power	45°F	Sell or Hold
	12:00 AM-(10 hrs.)	44°F	Sell or Hold
	2:00 PM-(12 hrs.)	43°F	Sell or Hold
	4:00 PM-(14 hrs.)	42°F	Sell or Hold
	5:00 PM-(15 hrs.)	41°F	Sell or Hold
<b>Total Time above 41°F</b>	15 hours	Max temp 45°F, temp at 15 hrs. 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>Outage Location:</b>	<b>Date &amp; Time (Temp was Taken) (Elapsed Time):</b>	<b>Temp (°F)</b>	<b>Disposition</b>
Cooler #2	10/1/17-7:00 AM outage started	38°F	Sell or Hold
	8:00 AM	40°F	Sell or Hold
	9:00 AM-start the clock	41°F	Sell or Hold
	11:00 AM-(2 hrs.)	43°F	Sell or Hold
	1:00 PM-(4 hrs.)	45°F	Sell or Hold
	3:00 PM-(6 hrs.)-power restored	50°F	Sell or Hold
	5:00 PM-(8 hrs.)	45°F	Sell or Hold
	6:00 PM-(9 hrs.)	43°F	Cook or
<b>Total Time</b>	9 hours	Max temp 45°F, temp at 15 hrs. is 41°F	Cook or Discard

**⚠️ Lighting** \*most localities do not allow temporary lighting during outages\* Restrict operations to procedures that can be safely conducted using available or alternative lighting. If the firm wants to continue holding, preparing, or selling exposed foods, then verify that the firm has and will continue to provide appropriate lighting for intended operations or obtain alternative lighting source for food related tasks such as food preparation, food handling, cleaning equipment and utensils, and cleaning the premises (FC 6-303.11). If sufficient natural light is available, limit operations to daylight hours.

**⚠️ Cooking TCS Foods** During an electrical disruption, order to the firm to discontinue cooking operations unless all cooking practices in place are safe. Instruct the firm to discard TCS foods that were in the cooking or re-heating process but did not reach a safe final temperature. Without ventilation, limit the cooking operation. Although unlikely, if the firm wants to continue cooking food during the outage, the Regulator must assess the firm’s ability to:

1. Connect cooking equipment to an alternative power source.
2. Continue to perform safe cooking operations (FC 3-401).
3. Attain or maintain proper temperature controls and associated hot holding temperatures, food handling, and equipment cleaning.
4. Ensure ventilation system can remove cooking smoke, steam, grease laden air, etc. (FC 4-301.14). Consider contacting the Fire Marshal to assess ventilation.



### **Hot Holding TCS Food**

Order the firm to cease hot-holding TCS unless it can be done safely (FC 3-501.16). If the firm desires to continue holding hot food, then during the assessment they must demonstrate that they can do following:

1. Document the time that the power outage begins.
2. If power returns within two hours, rapidly reheat TCS food to 165°F for 15 seconds within an additional two hours. The time the food is between the 41°F and 135°F should not exceed two hours. (FC 3-403.11). If power is not restored within two hours, the firm discards TCS foods within four hours from the time of outage unless kept above 135°F. (FC 3-501.19).
3. Use alternate heat source such as “canned heat” and monitor temperatures hourly to ensure product remains above 135°F. \*Fire Marshal may be contacted for approval of “canned heat”.



### **Dishwashing**

Instruct firm to discontinue operations that generate soiled utensils/tableware if they unable to properly wash and sanitize. If the firm wants to keep holding, preparing, or selling exposed food, verify that the firm will continue to:

1. Use single service tableware.
2. Use the three-compartment sink for washing, rinsing, and sanitizing if hot water can be provided (FC 4-501.17, 4-501.18, 4-501.19).
3. Use sanitizing chemicals at required minimum temperature or above as stated in the Food Code for that class of sanitizers. If a lower temperature is listed on the Environmental Protection Agency (EPA) registered Sanitizer instructions for use, then temperatures lower than those stated in the Food Code may be used. (FC 4-501.111, 4-501.114).



### **Water and Sewage:**

See “Interruption of Water Service” chapter in this guide. If sewage ejector pumps are inoperable discontinue operations.

### **Recovery Following an Electrical Disruption (FC 8-404.12).**

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Prior to lifting the cease operation order, verify that food safety processes affected by the outage can resume safely.

#### **Recovery Considerations**

- ✓ Verify the firm has documented date and time power was restored.
- ✓ Equipment and facilities must be operational, including: lighting, refrigeration, hot holding, ventilation, water supply, sewage pumps, water heaters, toilet facilities, warewashing machines and handwashing sinks.
- ✓ 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
- ✓ Food Salvage or Disposition (*See Food Product Salvage Guide*):
  - *Refrigerated Non-TCS food*: Provide guidance about loss of quality; however, only seize or force disposal of foods for food safety related reasons. Examine for signs of damaged package integrity or spoilage. Non-TCS food may be suitable for selling, serving or donating to other organizations such as food banks or shelters.
  - *Refrigerated TCS Food*: T/T procedures described in Chart 1 of this guide are approved if the firm has written plans with monitoring, so order disposal of affected food items if T/T were not monitored or if the firm cannot demonstrate proper T/T and temperatures may have exceeded 41°F. *Note: be prepared to make salvage decisions regarding foods identified in the firm’s plan as TCS foods that do not support pathogen growth.*
  - *Frozen Food*: may be salvaged if packages show no evidence of damage such as weeping, stains, physical deterioration, or evaporation.
- ✓ Contract company for disposal beyond current capacity.



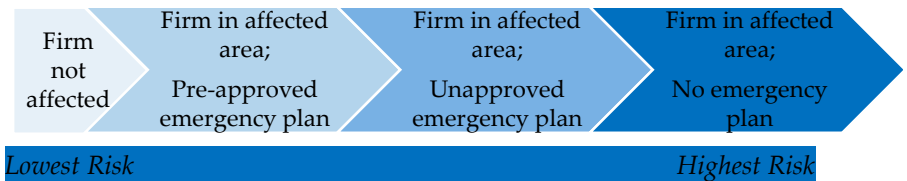
## Interrupted Water Supply

*Note: This section reviews procedures for loss of water service. Procedures for “boil water advisory” can be found in the Contaminated Water Supply section of this Guide.*

*During a sustained interruption of the water supply, a Food Regulator response needs to ascertain the extent of the interruption and assess food safety handling practices at affected facilities. Limited interruptions that do not impact food safety may not require a regulatory response. However, if there is a large-scale water service interruption, regulators will respond to determine if an Imminent Health Hazard exists. Regulatory Agencies should consider the following factors when planning responses to large scale water supply interruptions, and prior to assigning responders.*

1. *Has there been an evacuation or other order that would require the public (including regulators) to leave the area?*
2. *Can Responders safely travel to facilities and safely conduct assessments?*
3. *Are backup or temporary systems available?*
4. *Is there a set of assessment questions that all responders should be asking?*

*During a large-scale response to an interruption of water service, the regulatory agency will likely need to prioritize efforts based on highest risk. The example below shows risk on an increasing scale:*



### Planning

Water service may be interrupted due to damaged supply lines, water main breaks, or other. The interruption may be short, lasting only a few hours, but in some cases, the interruption may continue for multiple days. Pre-incident planning between regulators and industry helps ensure firms are prepared and therefore, considered lower risk. Regulators should encourage facilities to develop emergency action plans for interruptions that includes specific details for how the firm will maintain food safety, how water can be obtained to support continued operation during an interruption, or how to limit operations. Food Regulators may review or pre-approve an emergency plan to ensure it addresses issues and decisions the firm will have to make and minimizes uncertainty when a water supply interruption occurs.

**Disruption of Water Supply-Facility Plan Considerations:**

- ✓ Prepare an “emergency menu” including recipes for foods that require little to no water and the number of servings/or people that can be served.
- ✓ List equipment that uses water and develop a response plan for each piece.
- ✓ Provide a first aid kit with necessary items.
- ✓ Determine amount of water needed to operate equipment, sinks, and prepare emergency menu items.
- ✓ Identify available alternate water sources (FC 5-104.12):
  - Include 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.
  - Develop business agreements with bottled water supplier, licensed drinking water hauler, or ice suppliers.
- ✓ Keep contact information for a plumber, well-contractor, utility company, water supplier, ice supplier, etc.
- ✓ Maintain an inventory of emergency items:
  - bottled water, suitable containers for hauling or storing water,
  - disposable gloves and hand sanitizer,
  - single-service and single-use utensils and similar articles.
- ✓ Develop a contingency plan for toilets.
- ✓ Food establishments using a private water source, Type II or Type III non-community water supply (such as a well), must plan to follow disinfection and sampling requirements of the Safe Drinking Water Act as found in 40 Code of Federal Regulations (CFR) 141 and 142.

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

**Assessment**

Emergency response assessments during water supply disruption will evaluate how the nature of the water supply interruption and anticipated duration may impact the firm’s ability to manage food safety (FC 5-101.11, 5-103.11, 5-103.12). If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

**Nature, Scope, and Duration**

The nature and scope of the water supply interruption will determine the type and complexity of regulatory authority response. Water interruptions can be placed into one of three broad categories:

<p>Short term or localized</p>	<ul style="list-style-type: none"> <li>• Does not disrupt community infrastructure</li> <li>• Affects one facility or limited area</li> <li>• Short duration-less than four hours</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Large area; no disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• May be of unknown duration</li> <li>• Affect multiple facilities in an area</li> <li>• Regulators conduct extensive coordinated response based on risk</li> </ul>
<p>Large area; disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• Longer anticipated duration due to storms, floods, fires and earthquakes</li> <li>• Regulators conduct extensive coordinated response based on risk</li> <li>• May need alternate communication methods</li> <li>• May have to assess other emergency categories (i.e. power interruption) concurrently</li> </ul>

**Safety**

Regulator safety is priority no matter the incident size, nature, or scope.

**⚠ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. Find out when it will be safe to enter the building and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area.

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, etc. use a flashlight as appropriate, and carry a personal supply of bottled water. If there are concerns about in-facility safety, then contact supervisor or Safety Officer IMMEDIATELY.

### ***Food Safety Considerations***

During an interruption to the water supply, the primary concern for the Regulatory Authority is to quickly assess the operation (or many operations), to verify the following:

1. No imminent health hazard is present. (FC 8-404.11)
2. PIC is ensuring that safe operating conditions exist during the water service interruption (FC 2-103.11).

If either of the above items cannot be demonstrated, then order closure of the establishment or limit operations until they are safely resumed. However, if the impact is not too severe, then continued operation may be approved, pending initial and continued demonstration of food safety practices. If the firm is operational, then complete the assessment, focusing on systems, procedures, and equipment that are dependent on the availability of water:

1. Drinking water, water as a food ingredient, ice makers, beverage mixing/dispensing machines and approved water sources.
2. Sinks (handwashing, prep, etc.), warewashing equipment, toilets, and other equipment that depend on water.
3. Cleaning and sanitizing systems.
4. Functionality of systems that require water, but which may not use potable or drinking quality water such as heating/air conditioning equipment and cooling systems.

### **Business Continuity**

If an affected firm intends to continue operations during a water supply interruption, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices. In most cases, this is accomplished by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

### ***Emergency Procedures:***



#### ***Approved Water Sources***

During an assessment, verify that the firm has an alternative, approved water source available. (FC 5-104.12). 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 electricity is available).

- b. Individual retail sized containers of bottled water.
2. Municipal or approved water source delivered via:
  - a. Tanker truck,
  - b. Water buffalo style tank that is pulled by a motor vehicle,
  - c. Approved portable water containers,
  - d. Covered sanitized bulk containers, or
  - e. Other approved sanitary means of transporting water.
3. Water hauled from an approved public water supply in a covered, food-grade container that has been cleaned and sanitized.
4. Approved water supply from a neighboring location using approved sanitary hose(s) and fittings.
5. Fire system water when approved, as this water is not usually potable and may require additional treatment prior to use.



### *Water as a Food Ingredient*

If a firm is unable to provide a safe, alternate water supply, then restrict the menu or food preparation to items that don't require water. Firms must demonstrate how safe water will be provided, stored, and dispensed from and approved alternative water source if using water as an ingredient:

1. Only approve commercially manufactured ice. (FC 3-202.16)
2. Issue cease operations orders for automated, post-mix fountain drink dispensers, auto-fill coffee makers, instant hot water dispensers, juice and tea dispensers.



### *Handwashing*

If a firm is unable to provide operational or alternative handwashing facilities, then issue orders to cease food preparation and limit operations to pre-packaged foods only. If the firm wants to continue operations, then verify that sufficient alternative handwashing facilities or approved substitutions for pre-packaged food operations are provided (FC 5-203.11, 5-204.11, 5-205.11) as detailed below:

1. Alternative handwashing facility is typically a "gravity flow" handwashing set-up using potable water (i.e. commercially bottled water) in a clean, sanitized container with a continuous-flow type spigot allowing water to flow over hands into a catch bucket or directly above a functioning drain.
  - a. Dispensable hand soap, disposable towels, and a waste receptacle must be provided at designated handwash stations;

- b. The catch bucket must be emptied into an operational drain such as a janitor sink or toilet. Hands must be washed after emptying the catch bucket and before returning to food handling operations; and,
  - c. Even if previously approved, limit the operations to suspend bare hand contact with ready-to-eat foods.
2. Acceptable temporary handwashing substitutes may be approved when only prepackaged foods are provided. The following must also be followed if handwash 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 handwash sink, or alternative handwash facility must be provided for use in the immediate area of a toilet facility.
  3. A handwash 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*

If operational toilets are not accessible to employees during hours of operation throughout the duration of the interruption, then issue an order to cease operation until they are available. (FC 5-203.12). If the firm wants to continue operations and the toilet facilities are not functioning due to a lack of water for flushing, their continued use may be approved provided there is:

1. No sewage backup; and
2. An alternate supply of water that can be dumped into the toilet to facilitate flushing.

The use of portable mobile toilet facilities or alternate toilet facilities may also be approved provided they meet the following:

1. Signage is posted at not-operational toilets to prevent further use.
2. Toilet facilities are:
  - a. Conveniently located and accessible (i.e. within 200 feet of the food establishment's entrance);
  - b. Properly ventilated, maintained, and serviced in a manner that will not contaminate food or create a nuisance; and
  - c. Equipped with adequate alternative (i.e. "gravity flow") handwashing facilities in the immediate vicinity of the toilet(s).



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

Issue orders to limit or discontinue operations if the firm is unable to demonstrate proper cleaning and sanitizing procedures to ensure food safety (FC 2-103.11). If a firm wants to continue operations and can follow established procedures to wash, rinse, and sanitize, then approve operations that:

1. Require single service/use articles or utensils usage (FC 4-502.12).
2. Use alternate approved water (as listed above) for cleaning equipment, utensils, tableware, and surfaces that contact food (FC 5-104.12).
3. Provide appropriate water volume, quantity, and temperature (FC 5-103.11, 5-103.12) for cleaning and sanitizing. Water temperature must be at minimum temperature or above those stated in the Food Code for the class of sanitizer (i.e. Quaternary Ammonia at 75°F), unless otherwise stated on the EPA registered label (FC 4-501.114).
4. Discontinue operations as inventories of clean equipment, utensils, and tableware are exhausted.



### *Cleaning the Facility*

Issue orders to cease operations if lack of facility cleanliness could jeopardize food safety (FC 6-501.12), however, alternative water supply may be approved for general cleaning of the physical facilities.

### **Recovery Following an Interruption of Water Supply (FC 8-404.12)**

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Prior to lifting the cease operation order, verify that food safety processes affected by the water supply interruption can resume safely.

**Recovery Considerations**

- ✓ Verify the firm documented date and time water was restored.
- ✓ Equipment and facilities must be operational.
- ✓ Cleaning tools and equipment must be cleaned and sanitized prior to use.
- ✓ Flush pipes, faucets, and drinking fountains (FC 5-101.12), following the directions from the water municipality or, as general guidance, run cold water faucets for at least five minutes.
- ✓ Flush, clean and sanitize post-mix beverage dispensers, glass washers, ice machines, spray misters, coffee/tea urns, dishwashers, or other items with waterline connections following manufacturer instruction (FC 5-101.12).
  - Ice Machine - example of a written cleaning and sanitizing:
    - Flush the water line to the machine inlet.
    - Close valve on water line and disconnect water line from the inlet.
    - Open valve, run water through for 10-15 minutes, dispose of the water, and close the valve.
    - Reconnect the water line to the machine inlet, open the valve, and flush the water lines in the machine.
    - Replace filters on equipment if not designed to be cleaned in place.
    - Turn on the machine.
    - Throw away the first three batches of ice from the machine.
    - Clean and sanitize all parts and surfaces that contact water and ice, following the manufacturer's instructions.
    - *Alternatively contact cleaning service provider to back into service*
- ✓ Run water softeners through a regeneration cycle.
- ✓ Drain reservoirs in tall buildings.
- ✓ Change out all water filters.

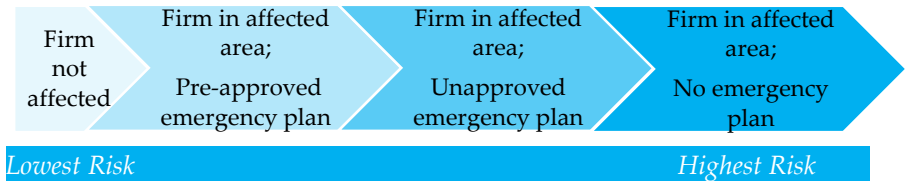


**Contaminated Water Supply (Boil Water Advisory)**

*During a contamination of the water supply, a Food Safety Regulator response needs to ascertain the extent of the contamination and assess food safety handling practices at affected facilities. During a contaminated water incident, regulators will respond to determine if an Imminent Health Hazard exists. For a large-scale response to a boil water advisory, the Regulatory Agency will likely need to prioritize efforts based on highest risk. Regulatory Agencies should consider the following factors when planning responses to major water contamination issues, and prior to assigning responders.*

1. *Has there been an evacuation or other order that would require the public (including regulators) to leave the area?*
2. *Can Responders safely travel to facilities and safely conduct assessments?*
3. *Are alternative procedures or backup communication systems available?*
4. *Is there a set of assessment questions that all responders should be asking?*
5. *Does the municipality rely on other organizations such as EPA or local Department of Environmental Quality for assuring the safety of non-community water supplies?*

*During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:*



**Planning**

Boil water notices are typically issued when an unexpected condition has caused a potential for biological contamination of a public water system, due to loss of pressure in the distribution system, loss of disinfection, or from other events such as water line breaks, treatment disruptions, power outages or floods. The contamination event may be short, lasting only a few hours, but in some cases, the event may continue for multiple days.

Regulators should encourage facilities to develop a plan for an onsite water supply that exceeds maximum contaminant levels. Food Regulators may review or pre-approve an emergency plan to ensure it addresses issues and decisions the firm will have to make and minimizes uncertainty when water supply contamination occurs.

**Contaminated Water Supply-Facility Plan Considerations:**

- ✓ Prepare an emergency menu including recipes for foods that require little to no water and the number of servings/or people that can be served.
- ✓ List equipment that uses water and develop a plan for each piece.
- ✓ Provide a first aid kit with necessary items.
- ✓ Determine amount of water needed to operate equipment, sinks, and prepare emergency menu items.
- ✓ Identify available alternate water sources (FC 5-104.12):
  - Include 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.
  - Develop business agreements with bottled water supplier, licensed drinking water hauler, or ice suppliers.
- ✓ Keep contact information for a plumber, well-contractor, utility company, water supplier, ice supplier, etc.
- ✓ Maintain an inventory of emergency items:
  - Bottled water, suitable containers for hauling or storing water.
  - Disposable gloves and hand sanitizer for use after washing hands with alternative water sources.
  - Single-service and single-use utensils and similar articles.

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

**Assessment**

Emergency response assessments during a boil water advisory will evaluate how the nature of the water supply contamination and anticipated duration may impact the firm's ability to manage food safety (FC 5-101.11, 5-102.11, 5-103.11, 5-103.12). If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

***Nature, Scope, and Duration***

The nature and scope of the contaminated water supply will determine the type and complexity of regulatory authority response. Boil watery advisories can be placed into one of three broad categories:

<p>Short Term or Localized</p>	<ul style="list-style-type: none"> <li>• Does not disrupt community infrastructure</li> <li>• Affects one facility or very limited area</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Large area; no disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• May be of unknown duration</li> <li>• Affect multiple facilities or multiple areas</li> <li>• Regulators conduct extensive coordinated response based on risk</li> </ul>
<p>Large area; disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• Longer anticipated duration due to storms, floods, fires and earthquakes</li> <li>• Regulators conduct extensive coordinated response based on risk</li> <li>• May have to assess other emergency categories concurrently</li> </ul>

**Safety**

Regulator safety is priority no matter the incident size, nature, or scope.

**▲ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. If the building is standing, find out when it will be safe to enter and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area.

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, use a flashlight as appropriate, and carry a personal supply of bottled water. If there are concerns about in-facility safety, then contact supervisor or Safety Officer IMMEDIATELY.

**Food Safety Considerations**

During a contaminated water supply event or boil water advisory, the primary concern for the Regulatory Authority is to quickly assess the operation (or many operations), to verify the following:

1. No imminent health hazard is present. (FC 8-404.11).
2. PIC is ensuring that safe operating conditions exist during the water contamination event (FC 2-103.11).

If either of the above items cannot be demonstrated, then order closure of the establishment or limit operations until they are safely resumed. However, if the impact is not too severe, then continued operation may be approved, pending initial and continued demonstration of food safety practices. If the firm is operational, then the firm's emergency operational system and equipment impacted by the water supply contamination will have to be assessed, focusing on systems, procedures, and equipment that are dependent on the availability of water:

1. Drinking water, water as a food ingredient, ice makers, beverage mixing/dispensing machines and approved water sources.
2. Sinks (handwash, food preparation, etc.), warewash equipment, toilets, and other equipment that depend on water.
3. Cleaning and sanitizing systems.
4. Functionality of systems that require water, but which may not use potable or drinking quality water such as heating/air conditioning equipment and cooling systems.

### **Business Continuity**

If an affected firm intends to continue operations throughout a boil water advisory, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices. In most cases, this is accomplished by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

### ***Emergency Procedures:***



#### ***Approved Water Sources:***

During an assessment, verify that the firm has an alternative, approved water source available. (FC 5-104.12). Examples include:

1. Boiled water: water that has been boiled and maintained at a rolling boil for at least one minute.
  - a. Chemical disinfection is generally not an option because of the lack of onsite equipment for testing chemical residuals.
  - b. *Note: Boiling water is not a permissible alternative to chemical contamination in water (i.e. heavy metals in water).*
2. 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 electricity is available).
  - b. Individual retail sized containers of bottled water.

3. Municipal or approved water source delivered via:
  - a. Tanker truck,
  - b. Water buffalo style tank that is pulled by a motor vehicle,
  - c. Approved portable water containers,
  - d. Covered sanitized bulk containers, or
  - e. Other approved sanitary means of transporting water.
4. Water hauled from an approved public water supply in a covered, food-grade container that has been cleaned and sanitized.
5. Approved water supply from a neighboring location using approved sanitary hose(s) and fittings.
6. Fire system water when approved, as this water is not usually potable and may require additional treatment prior to use.



### ***Water as a Food Ingredient***

If a firm is unable to provide a safe, alternate water supply, then restrict the menu or food preparation to items that don't require water. Firms must demonstrate how safe water will be provided, stored, and dispensed from and approved alternative water source if using water as an ingredient:

1. Only approve commercially manufactured ice. (FC 3-202.16).
2. Issue cease operations orders for automated, post-mix fountain drink dispensers, auto-fill coffee makers, instant hot water dispensers, juice and tea dispensers, etc., since they do not sufficiently heat/boil water to make it safe to drink.
3. Approve food preparation using potable water from an approved source as described above, also verify that the firm will:
  - a. Immediately discontinue preparing food with potentially contaminated water (FC 5-101.11).
  - b. Discard ready-to-eat food that may have been prepared with or may have contacted contaminated water (FC 3-701.11).
  - c. Discard RTE food items stored with ice or displayed on ice that could have been made from contaminated water (3-701.11).



### ***Water in Food Processing***

Washing or soaking fresh produce must include being able to sanitize sink with potable water first, and then washing fresh produce with water from an approved source. If the firm is unable to ensure this, then limit the operation to only allow:

1. Use of pre-washed packaged produce, or
2. Use of frozen or canned fruits and vegetables.

Use of spray misting units for produce should be limited and turned off during boil water advisories. Spray bottles may be approved if filled with an approved water source, properly labeled, and cleaned and sanitized.

Thawing frozen foods under running water is not an acceptable procedure under boil water advisory, only approve thawing procedures as follows [FC 3-501.13 (A) or (C)]:

1. Under refrigeration, or
2. As part of the cooking process if the food that is frozen is:
  - a. Cooked as specified under 3-401.11(A) or (B) or 3-401.12, or
  - b. Thawed in a microwave oven and immediately transferred to conventional cooking equipment, with no interruption in the process.



### *Handwashing*

If a firm is unable to provide approved water source for handwashing facilities, then issue orders to cease food preparation and limit operations to pre-packaged foods only. If the firm wants to continue operations, then verify that sufficient water source has been provided as detailed below:

1. Use water from an approved source.
2. Alternative handwashing facility is typically a “gravity flow” handwashing set-up using potable water (i.e. commercially bottled water) in a clean, sanitized container with a continuous-flow type spigot allowing water to flow over hands into a catch bucket or directly above a functioning drain.
  - a. Dispensable hand soap, disposable towels, and a waste receptacle must be provided at designated handwash stations;
  - b. The catch bucket must be emptied into a drain such as a janitor sink or toilet. Hands must be washed after emptying the catch bucket and before returning to food handling operations; and,
  - c. Even if previously approved, limit the operations to suspend bare hand contact with ready-to-eat foods.
3. Acceptable temporary handwashing substitutes may be approved when only prepackaged foods are provided. The following must also be followed if handwash 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 handwash sink or alternative handwashing facility must be provided for use in the immediate area of a toilet facility.

4. A handwashing sink with non-potable water must be identified to prevent its use.



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

Issue orders to limit or discontinue operations if the firm is unable to demonstrate proper cleaning and sanitizing procedures to ensure food safety (FC 2-103.11). If the firm wants to continue operations and can follow approved procedures to wash, rinse, and sanitize, then approve operations that:

1. Require single service/use articles or utensils usage (FC 4-502.12).
2. Use an alternate approved water (as listed above) for cleaning equipment, utensils, tableware, and surfaces that may contact food (FC 5-104.12).
3. Use of non-potable water for warewashing and sanitizing will be assessed based on the reason for the boil water advisory. Sanitizers may not be effective against eliminating parasites, toxins, and viruses that could be present in contaminated water.
  - a. Before approving automatic warewashing machine usage with non-potable water, consider if the water temperature, cleaning agents, and/or heat cycle are sufficient to clean and sanitize utensils and tableware. (FC 4-501).
  - b. If approving three-compartment sink with non-potable water usage, then ensure sanitizer concentration and contact time are sufficient to clean and sanitize utensils and tableware.
  - c. If the firm uses an automatic chemical dispensing system, recommend manually mixing of chemicals following manufacturer's instruction.



### ***Cleaning the Facility***

Issue orders to cease operations if facility cleanliness could jeopardize food safety (FC 6-501.12), however, alternative water supply may be approved for general cleaning of the physical facilities.

### **Recovery Following an Interruption of Water Supply (FC 8-404.12)**

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Prior to lifting the cease operation order, verify that food safety processes affected by the water supply contamination can resume safely.

**Recovery Considerations**

- ✓ Verify the firm documented date and time when the water advisory was lifted, or testing deemed water safe for use.
- ✓ Assure that cleaning and sanitizing equipment such as dishwashing machines, three compartment sinks are clean and sanitized.
- ✓ The firm must flush pipes, faucets, and drinking fountains (FC 5-101.12), following the directions from the water municipality or, as general guidance, run cold water faucets for at least five minutes.
- ✓ The firm must follow manufacturer's instructions to flush, clean and sanitize equipment with waterline connections such as post-mix beverage dispensers, spray misters, coffee or tea urns, ice machines, glass washers, dishwashers, etc. (FC 5-101.12).
  - Ice Machine-example of a written cleaning and sanitizing:
    - Flush the water line to the machine inlet.
    - Close valve on water line and disconnect water line from the inlet.
    - Open valve, run water through for 10-15 minutes, dispose of the water, and close the valve.
    - Reconnect the water line to the machine inlet, open the valve, and flush the water lines in the machine.
    - Replace filters on equipment if not designed to be cleaned in place.
    - Turn on the machine.
    - Throw away the first three batches of ice from the machine.
    - Clean and sanitize all parts and surfaces that contact water and ice, following the manufacturer's instructions.
    - *Alternatively contact cleaning service provider to back into service*
- ✓ Clean and sanitize food contact surfaces utensils and equipment.
- ✓ Run water softeners through a regeneration cycle.
- ✓ Drain reservoirs in tall buildings.
- ✓ Change out all water filters.
- ✓ Type II or Type III non-community water supply (such as a well) follow Safe Drinking Water Act Requirements (40 CFR 141 and 142).

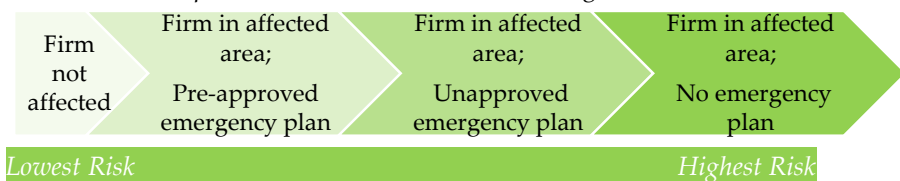


**Interrupted Gas Service**

*Gas outages can occur within gas distribution systems for many reasons, including damage from excavation, fires, floods, pressure equipment malfunction, etc. During an interruption of gas service, a Food Regulator response may need to ascertain the extent of the interruption and assess food safety handling practices at affected facilities. Regulatory Agencies should consider the following factors when planning responses to major gas outages, and prior to assigning responders*

1. *Has there been an evacuation or other order that would require the public (including regulators) to leave the area?*
2. *Can Responders safely travel to facilities and safely conduct assessments?*
3. *Are alternative procedures or backup communication systems available?*
4. *Is there a set of assessment questions that all responders should be asking?*

*Regulated natural gas utilities typically have an emergency plan for restoration on large-scale outages. These plans will vary by individual gas utility and by individual State requirements, and typically incorporate a process for locking-off affected services and for restoring services after repairs have been made. During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:*



**Planning**

If a firm uses gas service, regulators should encourage them to develop or follow an emergency plan for a gas service interruption that includes specific details about the decisions firms will have to make if there is an interruption in gas service, including how gas can be obtained to support continued operation or how to limit operations to ensure a safety. Regulators may consider reviewing or pre-approving a facility plan to ensure it addresses necessary actions the firm must take prior, during, and after gas service interruption.

**Interruption of Gas Supply-Facility Plan Considerations:**

- ✓ Review gas emergency procedures provided by the local gas company including procedures for relighting appliances after service is restored.
- ✓ Maintain contact information for plumber and local gas utility company.
- ✓ Determine all the equipment in the facility that uses natural gas and assess its impact to restaurant operations. The most common gas appliances are stoves, ovens, water heaters, and furnaces.
- ✓ Provide a first aid kit with necessary items.
- ✓ Where applicable, determine if water heaters are securely anchored to a wall to prevent them from shifting or falling during an earthquake.
- ✓ If a water heater is elevated, determine if the platform will withstand the weight of the water heater if it moves during an earthquake.

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

**Assessment**

Assessments during a gas service interruption or events that may possibly cause a related gas service interruption, will evaluate how the nature of the interruption and anticipated duration may impact the firm’s ability to manage food safety. If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

<p>Short term or localized</p>	<ul style="list-style-type: none"> <li>• Does not disrupt community infrastructure</li> <li>• Affects one facility or limited area</li> <li>• Short duration-less than four hours</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Large area; disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• Longer anticipated duration due to storms, floods, fires and earthquakes</li> <li>• Regulators conduct extensive coordinated response based on risk</li> <li>• May need alternate communication methods</li> <li>• May have to assess other emergency categories (i.e. power interruption) concurrently</li> </ul>

## **Safety**

Regulator safety is priority no matter the incident size, nature, or scope.

**▲ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. If the building is standing, find out when it will be safe to enter and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area.

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, etc. and use a flashlight as appropriate. Look for damaged ceilings and roof supports, weak floors, and downed power lines. If gas service is still on in the building, consider having the firm contact the gas company to shut-off the gas. If there are concerns about in-facility safety, contact supervisor or Safety Officer IMMEDIATELY.

### ***Food Safety and Personal Safety Considerations***

During an interruption to the gas supply, the main concern for the Regulatory Authority is to quickly assess the operation to verify that no imminent health hazard is present, (FC 8-404.11). If that cannot be demonstrated, then order closure of the establishment or limit operations until safety is resumed.

If a gas leak is suspected, there are special criteria to be aware of to protect Responder safety. If the impact is not too severe, then continued operation may be approved, pending initial and continued demonstration of food safety practices. If the firm is operational, then the firm's emergency operational system and equipment impacted by the gas outage will have to be assessed, focusing on the following:

#### **1. Entering an **occupied** Facility**

- a. If an odor of rotten eggs or sulfur is encountered upon entering an occupied facility, instruct the facility operator to check all gas appliances to ensure the pilot lights are burning and that there are no open, un-lit burners.
- b. If an actual gas leak is found, then advise the facility operator to shut off the gas supply to all appliances and that an unsafe condition may

exist and recommend they call the gas utility to turn off the gas supply.

- c. If all pilot lights are burning and there are no open, un-lit burners, there may be a gas leak in the appliances, appliance connections, or building piping. Advise the facility operator to shut off the gas supply to all appliances and that an unsafe condition may exist and recommend they call the gas utility to turn off the gas supply.
  - d. If there is no gas supply to the gas appliances, advise the facility operator to call the gas utility to re-establish service.
2. Entering a previously **unoccupied** facility (due to mandatory evacuation or curfew) with the operator.



If an odor of rotten eggs or sulfur is encountered upon entering an unoccupied facility you should immediately vacate the premises. Call 911 but **DO NOT CALL** from inside the facility; make certain you place the call outside and well away from the building

### **Business Continuity**

If an affected firm intends to continue operations during a gas service interruption, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices. In most cases, this is accomplished by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

#### *Emergency Procedures:*



##### *Equipment and Facilities:*

If any conditions exist that could be unsafe, do not continue the inspection until repairs have been made. Assess indirect impact on business from non-cooking appliances (i.e. HVAC or water heater). Consider handwashing and dish washing, and other requirements detailed in this guide. Evaluate whether alternate cooking/heating appliances (i.e. electric) are available to support continued operation.



##### *Operating Plan:*

If any conditions exist that could be unsafe, do not continue the inspection until repairs have been made. Check to see if the facility has an approved emergency operating plan. Determine whether continued business

operation without natural gas would conflict with applicable ordinances and/or food safety.

### **Recovery Following a Gas Service Interruption (FC 8-404.12)**

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Prior to lifting the cease operation order, verify that food safety processes can resume safely.

#### **Recovery Considerations**

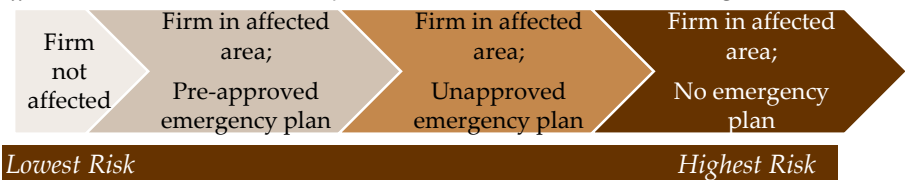
- ✓ Restoration of affected customers is typically prioritized in a gas emergency plan according to criticality.
  - An example of this prioritization might include hospitals, nursing homes, schools, large apartment buildings, large businesses, smaller businesses, and residential customers.
  - There may be times, however, when the location of the damage does not allow for this restoration process.
  - Accessibility of facilities will determine the speed of restoration by the gas utility.
- ✓ Restoring a large-scale gas outage requires a controlled and systematic approach that involves identification and isolation (locking) of all affected services, repair of the damage, purging of the repaired distribution system, and then turn-on, relighting, and safety checks of all affected services and meters one-by-one.
  - Depending upon the size of the outage, this can become a very time-consuming process.

## Sewage Backup

During a sewage backup event, (overflow of sewage from equipment or plumbing fixtures) a Food Safety Regulator response needs to ascertain the extent of the problem and assess food safety handling practices at affected facilities. If there is sewage backup in the food facility, preparation, or storage areas, regulators will respond to determine if an Imminent Health Hazard exists. Regulatory Agencies should consider the following factors when planning responses to flood events, and prior to assigning responders.

1. Has there been an evacuation or other order that would require the public (including regulators) to leave the area?
2. Can Responders safely travel to facilities and safely conduct assessments?
3. Are alternative procedures or backup communication systems available?
4. Is there a set of assessment questions that all responders should be asking?
5. 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 sewage.

During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:



### Planning

Regulators should encourage the facility to develop or follow emergency action plans for a sewage backup event that includes specific details about decisions the firm will have to make if there is a sewage backup. Consider alternative operations, how to limit operations to ensure safety, when to discontinue operations, and cleaning and sanitizing. Food safety regulators may consider reviewing or pre-approving a facility plan to ensure that it addresses the necessary actions a firm must take prior, during, or after a sewage backup.

**Sewage Backup-Facility Plan Considerations:**

- ✓ Establish cleanup procedures with calculations for solutions. (*Reference: FC Annex 3, 2-501.11 Clean-up of Vomiting and Diarrheal Events*).
- ✓ Maintain emergency contacts for a plumber, pumping service, cleaning company, sewer company, and local regulatory authority.
- ✓ Identify equipment/supplies needed for addressing sewage backup.
- ✓ Provide a first aid kit with necessary items.
- ✓ Identify shut-off valves, back-siphonage preventers, and water supply lines. *Consider a plumbing schematic to identify the waste drainage system and identify drains and equipment that may be impacted by plumbing line stoppages. Note: Usually the lowest opening in the system will overflow or backup first.*
- ✓ Maintain cleaning/sanitizing supplies, disposable gloves, hand soap, hand sanitizer, disinfectants, and emergency personal protective equipment.
- ✓ Develop a contingency plan for toilets and wastewater disposal.

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

**Assessment**

Assessments during a sewage backup will evaluate how the nature of the backup and anticipated duration may impact the firm's ability to manage food safety. If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

**Nature, Scope, and Duration**

The nature and scope of the sewage backup will determine the type and complexity of regulatory authority response. Sewage backup events may fit into one of two categories:

<p>Short term or isolated</p>	<ul style="list-style-type: none"> <li>• Does not disrupt community infrastructure</li> <li>• Affects one piece of equipment (i.e. toilet or sink)</li> <li>• Short duration-less than four hours</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Continuous, widespread, large area; disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• Longer duration due to damage, storms, floods, fires, or earthquakes</li> <li>• Affects multiple pieces of equipment, multiple areas, or a large area of the facility</li> <li>• Regulators may conduct an extensive coordinated response based on risk or respond to facility notifications or consumer complaints</li> <li>• May also have to assess other emergency categories</li> </ul>

**Safety**

Regulator safety is priority no matter the incident size, nature, or scope.

**⚠ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. If the building is standing, find out when it will be safe to enter and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area.

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, etc. and use a flashlight as appropriate. Look for damaged ceilings and roof supports, weak floors, and downed power lines. If there are concerns about in-facility safety, then contact supervisor or Safety Officer IMMEDIATELY.



### ***Food Safety Considerations***

During a sewage backup event, the primary concern for the Regulatory Authority is to quickly assess the operation to verify the following:

1. No imminent health hazard is present. (FC 8-404.11)
2. PIC is ensuring that safe operating conditions exist during the sewage backup event (FC 2-103.11).
3. No food and/or food equipment and surfaces are exposed to sewage.

If any of the above items cannot be demonstrated, then order closure of the establishment or limit operations until they are safely resumed. **In rare cases**, if the impact is not too severe, continued operation may be approved pending initial and continued demonstration of food safety practices. If the firm is operational, then the emergency operational system and equipment impacted by the backup will have to be assessed, focusing on the following sections.

1. Specific areas where food, equipment, or employees could potentially contact sewage.
2. Handwashing, warewashing, cleaning and sanitizing procedures during and after the event.

### **Business Continuity**

For continuous or widespread sewage backup in the establishment from a floor drain, toilet, sink or other appliance(s), regulators must issue a cease operation notice. (FC 8-401.11). In **rare** instances when a firm intends to continue operations during a limited backup, the Regulator must verify the firm can demonstrate safe practices and follow temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

### ***Emergency Procedures:***



#### ***Limited Affected Operations and Areas:***

During an assessment, verify that the firm is following general guidelines when sewage from equipment directly connected to the plumbing system is either slow to drain, does not drain, or backs up:

1. Discard all food exposed to contamination.
2. Remove the affected equipment/fixture from service and label it to prevent additional uses.
3. Remove the obstruction or call a service company.
4. Close-down and segregate the affected site to keep foot traffic away from areas that are flooded or wet from sewage.

5. Demonstrate proper handwashing and equipment washing by using other sinks, appliances, or fixtures that are properly operating that are not in the affected area.
6. Provide toilets in the establishment that are properly operating that are not in the affected area.



### ***Corrective Actions to Eliminate the Backup.***

In the case of plugged drain lines, the permit holder should consider contacting a service company to find and remove the obstruction and replace worn or damaged plumbing as needed.

If onsite sewage disposal system is malfunctioning, firms should contact:

1. Local health department for permit requirements.
2. Sewage pumping contractor to pump the septic tank and haul away sewage to an approved disposal site until repairs can be made.
3. Sewage disposal system installation contractor to arrange for repairs.

### **Recovery Following a Sewage Backup (FC 8-404.12)**

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Follow disinfectant use instructions listed on the EPA registered label. *Note: Disinfectants for use during vomiting and diarrheal events (i.e. norovirus) would be suitable for these situations. (FC Annex 3, 2-501.11 Clean-up of Vomiting and Diarrheal Events) and adherence to OSHA rules for handling detergents, sanitizers, and other chemicals used in the cleaning process.* Prior to lifting the cease operation order, verify that food safety processes affected by the sewage backup can resume safely.

**Recovery Considerations**

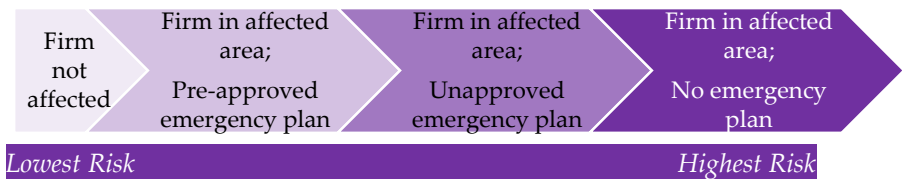
- ✓ Verify the firm documented date and time the backup was cleared.
- ✓ Remove standing sewage water immediately and prior to starting clean-up procedures and discard cleaning equipment or tools that cannot be disinfected.
- ✓ Use disinfectants suitable for vomiting and diarrheal events or use chlorine solution at 1000 to 5000 parts per million (*5–25 tablespoons of household bleach [5.25%] per gallon of water*).
- ✓ Disinfect floors, walls and other affected areas.
- ✓ Remove and replace wall and insulation materials that are susceptible to mold.
- ✓ Prevent employee traffic between affected areas and nonaffected areas unless they remove footwear and protective clothing.
- ✓ Require double handwashing instantly after handling contaminated materials and before engaging in any food prep:
  - Clean hands and exposed portions of arms using hand soap (*vigorously rub surfaces of lathered hands and arms together for at least 20 seconds*), thoroughly rinse with clean water, and repeat.
  - Use a disposable towel to dry hands and to turn off the water.
  - Follow with a hand antiseptic.
  - Clean and disinfect faucets and other areas near the handsink to prevent transferring contamination to food handlers.
- ✓ Clean and disinfect contaminated utensils, equipment, and affected surfaces first, rinse, sanitize, and allow to air dry prior to use.
- ✓ Discard linens or uniforms contaminated by sewage or use an industrial laundry service that can disinfect the items. (FC 4-801.11).
- ✓ Destroy and dispose of unsalvageable food and single service items.
- ✓ If an onsite sewage disposal system has overflowed, contact a sewage pumping contractor to pump exposed sewage (as well as the septic tank) and disinfect affected areas.
- ✓ *Alternative measure: Hire a janitorial service with expertise in cleaning food establishments exposed to sewage backups.*

## Flooding

*During a flooding event, a Food Regulator response needs to ascertain the extent of the damage and assess food safety handling practices at affected facilities. Minor water intrusions near doors will likely not require a regulatory response. However, if there is flood water in the food facility, preparation, or storage areas, regulators will respond to determine if an Imminent Health Hazard exists. Regulatory Agencies should consider the following factors when planning responses to flood events, and prior to assigning responders.*

1. *Has there been an evacuation or other order that would require the public (including regulators) to leave the area?*
2. *Can Responders safely travel to facilities and safely conduct assessments?*
3. *Are alternative procedures or backup communication systems available?*
4. *Is there a set of assessment questions that all responders should be asking?*

*During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:*



## Planning

Floods, big or small, may greatly impact a food operation. 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 time. The cause of the flood, such as heavy rain over a period of days, hurricane, or a water line leak will determine the impact on the facility and how long the flooding continues. The flood event may be short or continue for multiple days, but recovery will take longer. Regulators should encourage facilities to develop a plan for a flooding events. Food Regulators may review or pre-approve an emergency plan to ensure it addresses issues and decisions the firm will have to make and minimizes uncertainty when a flood occurs.

### Flood Event – Facility Plan Considerations

- ✓ Maintain current emergency contacts, such as repair companies and service providers, cleaning/sanitizing company, and local regulatory authority.
- ✓ Monitor National Weather Service and National Oceanic Atmospheric Administration (NOAA) to determine potential tidal crests and estimated times of high tide or rivers cresting.
- ✓ Develop a plan to move food items and packaging materials to an alternate location to avoid contact with flood water.
- ✓ Identify equipment/supplies needed to handle a flood incident
- ✓ Provide a first aid kit with necessary items.
- ✓ Identify emergency cut-off valves, back-siphonage preventers, and water supply lines. *If possible, have a drainage schematic that identifies how the waste drainage system is designed to help identify drains and equipment that may be impacted by a flood.*
- ✓ Maintain an inventory of cleaning/sanitizing supplies, disposable gloves, hand soaps, hand sanitizers, disinfectants, and emergency personal protective equipment.
- ✓ Establish and follow written procedures for responding. The firm should calculate chlorine solutions prior to an emergency and test surface compatibility with prior to use. *Follow OSHA rules for handling detergents, sanitizers, disinfectants, and other chemicals used in the cleaning process.*
- ✓ EPA mold remediation: [http://www.epa.gov/mold/mold\\_remediation.html](http://www.epa.gov/mold/mold_remediation.html)

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

### Assessment

Emergency response assessments during or after a flood event will evaluate how the nature of the flood and anticipated duration may impact the firm's ability to manage food safety. If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

### Nature, Scope, and Duration

The nature and scope of the flood event will determine the type and complexity of regulatory authority response. *Note: If flooding is the result of sewage backup or sewage drainage failure, refer to Sewage Backup in this Guide.* Floods may also impact other systems such as electrical power and the

safety of the water supply. Flood events can usually be placed into one of three broad categories:

<p>Short term or isolated</p>	<ul style="list-style-type: none"> <li>• Does not disrupt community infrastructure</li> <li>• Affects a single facility</li> <li>• Short duration-less than four hours</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Localized area; no disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• May be of unknown duration</li> <li>• Affects multiple pieces of equipment or localized area in a facility (i.e. a bathroom or the meat department)</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Large area; disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• Longer anticipated duration due to storms, floods, fires and earthquakes</li> <li>• Affects a larger area or the entire facility</li> <li>• Regulators conduct extensive coordinated response based on risk</li> <li>• May need alternate communication methods</li> <li>• May have to assess other emergency categories concurrently</li> </ul>

### Safety

Regulator safety is priority no matter the incident size, nature, or scope.

**⚠ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. If the building is standing, find out when it will be safe to enter and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area.

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, etc. and use a flashlight as appropriate. Look for damaged ceilings and roof supports, weak floors, and downed power lines. If gas or electrical service is still on in the building, consider having the firm contact the company(s) to shut-off the services. If there are concerns about in-facility safety, then contact supervisor or Safety Officer IMMEDIATELY.

### ***Food Safety Considerations***

During a flood, the primary concern for the Regulatory Authority is to quickly assess the operation, to verify the following:

1. No imminent health hazard is present. (FC 8-404.11)
2. PIC is ensuring safe operation conditions during and after the flood emergency event (FC 2-103.11).
3. No food and/or food equipment, surfaces, employees and/or customers are exposed to flood water or health and safety hazards.

If the above items cannot be demonstrated, then order closure of the firm or limit operations until they are safely resumed. However, if the impact is not too severe, then continued operation may be approved, pending initial and continued demonstration of food safety practices. If the firm is operational, then the firm's emergency operational system and equipment impacted by the flood will have to be assessed, focusing on the following:

1. Temporary or alternative procedures utilized to ensure food safety or to meet other applicable requirements, including:
  - a. Employee health and hygiene practices
  - b. Food handling or preparation practices
  - c. Utensils and equipment sanitation
  - d. Linen use and laundering
  - e. Single service/use item use
  - f. Other disrupted systems, such as electrical, potable water supply, sewage drainage, and waste disposal as discussed in this guide.
2. Address food, packaging materials, equipment, surfaces, and supplies, that are no longer safe to use or sell, including special removal procedures of nonfood hazardous waste items affected by flood waters such as batteries, fluorescent lights, and chemicals.

### **Business Continuity**

When flooding impacts a facility and is not isolated or contained, discontinue operations. If an affected firm intends to continue operations during or immediately after a flood, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices. In most cases, this is accomplished by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

## Emergency Procedures:



### Isolated or Minor Flooding

When flood water is isolated, unaffected areas of the establishment may remain open while repairs or recovery take place if firm completes the following:

1. Isolate affected area and prevent traffic from flooded area to other 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 (i.e. norovirus) would be suitable for these situations. Reference: Supplement to the FC Annex 3, 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.



### Extensive Flooding

Flooding 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. Refer to sections of this guide for additional information on secondary impact due to flooding, i.e. electrical outage, interrupted water supply, contamination water supply, etc. for more detailed information.

### Recovery Following a Flood Event (FC 8-404.12)

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Follow local requirements and disinfectant use instructions listed on the EPA registered label. Prior to lifting the cease operation order, verify that food safety processes affected by the flood can resume safely.



**Recovery Considerations**

- ✓ Contact building department to determine if the building is safe and approved for occupancy.
- ✓ Clean and disinfect contaminated utensils, equipment, and affected surfaces first, rinse, sanitize, and allow to air dry prior to use.
- ✓ Identify foods, utensils, linens, and single service items for salvage or disposal. Segregate hazardous from non-hazardous material before disposal. (*See Food Product Salvage Guide*).
- ✓ Require double handwashing instantly after handling contaminated materials and before engaging in any food prep:
  - Clean hands and exposed portions of arms using hand soap (*vigorously rub surfaces of lathered hands and arms together for at least 20 seconds*), thoroughly rinse with clean water, and repeat.
  - Use a disposable towel to dry hands and to turn off the water.
  - Follow with a hand antiseptic.
  - Clean and disinfect faucets and other areas near the hand sink to prevent transferring contamination to food handlers.
- ✓ Remove standing water prior to starting clean-up procedures, including standing water under refrigeration or electrical conduits.
- ✓ Discard cleaning equipment or tools that cannot be disinfected.
- ✓ Disinfect floors, walls and other affected areas. Remove and replace wall and insulation materials that are susceptible to mold.
- ✓ Clean and disinfect walk-in cooler/freezer if it has:
  - Quarry tile floor with six-inch sealed coving, and water did not rise above the coving.
  - Cooler walls that sit directly on the floor with intact caulk seal
  - Unacceptable seal at floor/wall juncture of a free-standing cooler, then disassemble, clean, and disinfect the panels.
  - An aluminum base that sit directly on the floor, then raise it, wash, and disinfect underneath.
- ✓ Provide replacements for coolers or freezers as described:
  - Damaged panels (i.e. holes or cuts) where flood water rose above the damage, must be replaced.
  - Coolers with permeable wood flooring needs to replace the floor.
- ✓ If the well was covered by flood water, it must be treated and tested prior to use. Provide acceptable test results or alternative water supply.
- ✓ If the septic tank system was flooded, contact the local health department for an evaluation before use.
- ✓ *Alternative measure: Hire a janitorial service having expertise in cleaning food establishments exposed to flooding.*

**Fire**

*After a larger scale fire, a Food Regulator response needs to ascertain the extent of the fire and assess food safety and food handling practices at affected facilities. A fire in a food establishment that is small and confined, does not contaminate food, and has been extinguished using a simple device such as a hand-held fire extinguisher, wet towel, pan lid, etc. is considered non-reportable and may not require a regulatory response. However, if the fire creates long term water or electric service interruption, regulators will likely need to respond to determine if an Imminent Health Hazard exists. Regulatory Agencies should consider the following factors when planning responses, and prior to assigning responders*

1. *Has there been an evacuation or other order that would require the public (including regulators) to leave the area?*
2. *Can Responders safely travel to facilities and safely conduct assessments?*
3. *Are alternative procedures or backup communication systems available?*
4. *Is there a set of assessment questions that all responders should be asking?*

*During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:*



**Planning**

A fire affecting a food facility may be of short duration, but the recovery may continue for multiple days. Regulators should encourage firms to develop a plan for fire events. Food Regulators may review or pre-approve an emergency plan to ensure it addresses issues and decisions the firm will have to make and minimizes uncertainty when a fire occurs.

- Fire -Facility Plan Considerations:**
- ✓ Maintain current emergency contacts such as fire department, service providers, cleaning/sanitizing company, and local regulatory authority.
  - ✓ Develop an emergency evacuation plan for employees and customers.
  - ✓ Provide a response or first aid kit which contains necessary items and appropriate clothing.
  - ✓ Assess what food, facilities, and equipment can be salvaged after a fire.
  - ✓ Identify equipment/supplies needed to respond to a fire and follow-up.
  - ✓ Identify electrical connections that may have to be disconnected.

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

**Assessment**

Emergency response assessments after a fire will evaluate how the nature of the fire and anticipated duration may impact the firm’s ability to manage food safety and 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). If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

**Nature, Scope, and Duration**

The nature and scope of the fire will determine the type and complexity of regulatory authority response. Fires can be placed into one of three broad categories:

<p>Short term or isolated</p>	<ul style="list-style-type: none"> <li>• Does not disrupt community infrastructure</li> <li>• Affects one piece of equipment or a single area</li> <li>• Short duration</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Localized area; no disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• May be of unknown duration</li> <li>• Affects multiple pieces of equipment or localized area in a facility (i.e. stockroom or meat department)</li> <li>• Regulator responds to facility notifications or consumer complaints</li> </ul>
<p>Large area; disruption of community infrastructure</p>	<ul style="list-style-type: none"> <li>• Affects a larger area or the entire facility</li> <li>• Regulators conduct extensive coordinated response based on risk</li> <li>• May need alternate communication methods</li> <li>• May have to assess other emergency categories (i.e. electrical power or flooding) concurrently</li> </ul>

## Safety

Regulator safety is priority no matter the incident size, nature, or scope.

**⚠ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. If the building is standing, find out when it will be safe to enter and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area.

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, etc. and use a flashlight as appropriate. Look for damaged ceilings and roof supports, weak floors, and downed power lines. If gas or electrical service is still on in the building, consider having the firm contact the company(s) to shut-off the services. If there are concerns about in-facility safety, then contact supervisor or Safety Officer IMMEDIATELY.

### *Food Safety Considerations*

During fire, the primary concern for the Regulatory Authority is to quickly assess the operation, to verify the following:

1. No imminent health hazard is present. (FC 8-404.11)
2. PIC is ensuring safe operation conditions during and after the fire event (FC 2-103.11).
3. No food and/or food equipment, surfaces, employees and/or customers are exposed to health and safety hazards.

If the above items cannot be demonstrated, then order closure of the facility or limit operations until they are safely resumed. However, if the impact is not too severe, then continued operation may be approved, pending initial and continued demonstration of food safety practices. If the firm is operational, then the firm's emergency operational system and equipment impacted by the flood will have to be assessed, focusing on the following:

1. Address food, packaging materials, equipment, surfaces, and supplies that have been affected by smoke and fire.
2. Temporary or alternative procedures used to meet food safety or other applicable requirements:
  - a. Employee health and hygiene practices,
  - b. Food handling or preparation practices,
  - c. Utensils and equipment sanitation,

- d. Linen use and laundering,
- e. Food and packaging materials and single service/use item use,
- f. Equipment and supplies,
- g. Building integrity and site access, and
- h. Other systems that may be disrupted such as electrical power.

### **Business Continuity**

If an affected firm intends to continue operations immediately after a fire, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices during or immediately following a fire or smoke damage. In most cases, this is accomplished by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

#### *Emergency Procedures:*



#### ***Affected Operations after a 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. All exposed food at the time of the event is discarded.



#### ***Extensive Fire Damage***

If a fire causes extensive damage to equipment and the facility's structure, or if smoke has had a major impact on food and packaging, then the Regulator must issue cease operation orders. All exposed food and some packaged food exposed to the fire, smoke, and chemicals must be assessed for disposal. See the Food Product Salvage Guide.



#### ***Flooding***

If there is flooding caused by fire suppression after fire department intervention, then refer to the flooding section of this Guide for additional information on operation and recovery.

### **Recovery Following a Fire Event (FC 8-404.12)**

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Prior to lifting the cease operation order, verify that food safety processes affected by the fire or smoke can resume safely.

**Recovery Considerations**

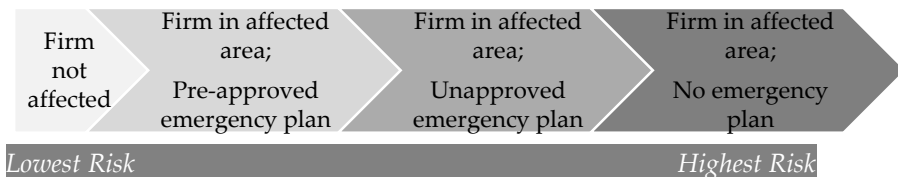
- ✓ Contact local building department or other appropriate agencies to determine if the building is safe and approved for occupancy.
- ✓ Identify foods, utensils, linens, and single service items that may not be salvaged and ensure proper disposal. (*See Food Product Salvage Guide*).
- ✓ Segregate hazardous from non-hazardous material before disposal.
- ✓ Employee Safety and Protection Items and Procedures:
  - Rubber boots that can be washed and disinfected. Protective clothing such as coveralls or disposable outer garments, respirator, boots, and eye protection.
  - Don't allow employee access to affected areas until area safety is determined. Prohibit employee traffic between affected areas and other areas without removing footwear and protective clothing.
  - *Follow OSHA rules for handling detergents, sanitizers, disinfectants, and other chemicals used in the cleaning process or in response to the fire.*
- ✓ Cleaning procedures:
  - All areas affected by the fire, including those affected by smoke and water, must be cleaned and sanitized.
  - 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.
  - 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.

**Pest Infestation**

*During an emergency, (i.e. natural disasters, flooding, fire, etc.), pest concerns are likely to increase (rodents, flies, displaced wildlife, etc...), especially if operational sanitation and exclusion measures are impacted. A Food Regulator response needs to ascertain the infestation and assess food safety handling practices at affected facilities. If there is a large scale or extended emergency, regulators will respond to determine if an Imminent Health Hazard exists and must be prepared to address associated pest infestation. Regulatory Agencies should consider the following factors when planning responses, and prior to assigning responders.*

1. *Has there been an evacuation or other order that would require the public (including regulators) to leave the area?*
2. *Can Responders safely travel to facilities and safely conduct assessments?*
3. *Are alternative procedures or backup communication systems available?*
4. *Is there a set of assessment questions that all responders should be asking?*

*During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:*



**Planning**

A disaster that causes increased pest activity or infestation may be short, lasting only a few hours, but recovery may continue for multiple days. Regulators should encourage facilities to develop a plan for emergency events that also address possible pest infestation or intrusion. Food Regulators may review or pre-approve an emergency plan to ensure it addresses issues and decisions the firm will have to make and minimizes uncertainty when a disaster occurs.

Pest Infestation or Invasion -Facility Plan Considerations:	
✓	Maintain current contacts for local area animal control and local fish and wildlife agency that would assist with wildlife mitigation or caution.
✓	Plan for the evacuation of employees and customers.
✓	Provide a response or first aid kit which contains necessary items and appropriate clothing to protect those responding.
✓	Plan for removal of excess or accumulated garbage or unsaleable food which may become a pest attractant.

If a firm has a plan to address the above issues, classify them as lower risk and focus response efforts on higher risk firms lacking a plan.

### **Assessment**

Emergency response assessments that include pest infestation or intrusion evaluate how the nature of the pest activity and anticipated duration may impact the firm's ability to manage food safety, determine what areas, systems, equipment, food, and packaging may be impacted by the pests or wildlife. If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

### ***Nature, Scope, and Duration***

The nature and scope of the incident will determine the type and complexity of regulatory authority response. The circumstances will have to be assessed on a case-by-case basis.

**⚠ Safety Note:** Never enter an area or perform any job task that will result in injury or illness. Upon arrival at an emergency or disaster, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site. If the building is standing, find out when it will be safe to enter and attempt to contact the owner. If damage is extensive, approval from the fire department or city building inspector may be required prior to entering the building or area. Since insects, pest, and wildlife can be relocated to areas under assessment, use caution before entering a space (use flashlights, as needed).

Exercise care to eliminate the chance of injury. Wear protective clothing, i.e. helmet, coveralls, safety goggles, boots, etc., and dress to protect from displaced animals such as snakes, ants, and mosquitos. Bring a flashlight, insect repellent, snake bite kit, and antihistamine (such as Benadryl). If there are concerns about in-facility safety, then contact supervisor or Safety Officer IMMEDIATELY.

### ***Food Safety Considerations***

During a pest infestation or intrusion, primary concern for the Regulatory Authority is to quickly assess the operation to verify the following:

1. No imminent health hazard is present. (FC 8-404.11)
2. PIC is ensuring that the firm is safely operating during the infestation or invasion. (FC 2-103.11).



If either of the above items cannot be demonstrated, then order closure of the establishment or limit operations until they are safely resumed.

However, if the impact is not too severe, then continued operation may be approved, pending initial and continued demonstration of food safety practices. If the firm is operational, then the firm's emergency operational system and equipment impacted by the infestation or invasion will have to be assessed, focusing on the following:

1. Safety of human resources.
2. Breaches of the facility that are contributing to pest entry.
3. Conditions present that attract and/or sustain pest populations, provide additional pest harborage from damaged structures, accumulated area debris, fallen trees, branches, and other material. Be aware of wildlife movement, insects, and other pests, and prepare accordingly.
4. Sources of standing water should be reviewed and addressed to help prevent an increase in mosquito population.
5. Reviewing the facility plan, including locations of bait stations to help the business ensure adequate protection remains intact.

### **Business Continuity**

If an affected firm intends to continue operations throughout a pest infestation or intrusion, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices. In most cases, this is accomplished by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

### *Emergency Procedures:*



#### ***Identify Entry Points or Harborage Areas***

Secure the building, including ceilings, walls, wall flashing, doors, windows, and screens that have become compromised and allow for the entry of pests, displaced wildlife, and insects. Waste water and material can be forced into facility and bring unwanted pests. Remove conditions that attract and/or sustain pest populations, provide additional pest harborage from damaged structures, accumulated area debris, fallen trees, branches, and other material. Be aware of wildlife movement, insects (i.e. cockroaches, ants, flies), and other pests (i.e. rodents), and prepare accordingly. Address sources of standing water to help prevent an increase in mosquito population.



### ***Cleaning and Sanitation***

Maintain adequate sanitation frequencies and procedures for equipment, utensils, facilities, linens, etc., to minimize contamination, pest attraction and population expansion.



### ***Review Pest Control Findings***

Replace damaged/missing pest control devices, equipment, or products. Consider additional control tactics in response to enhanced pest activity. The pest control provider may need to apply residual spray to keep the fly population down.



### ***Waste Management***

Food waste must be removed quickly and placed into open top dumpsters or other similar containment devices. If dumpsters are not available, place food waste into sturdy, sealed garbage bags to be stored away from the facility. Also remove accumulation of garbage that may occur due to power loss, flood water exposure, fire, or etc. that leave food no longer suitable for sale.

### **Recovery Following a Pest Infestation or Intrusion (FC 8-404.12)**

Regulatory agents **must** authorize the re-opening of a firm if a cease operation order was issued due to an imminent health hazard. Prior to lifting the cease operation order, verify that food safety processes affected by pests can resume safely.

**Recovery Considerations**

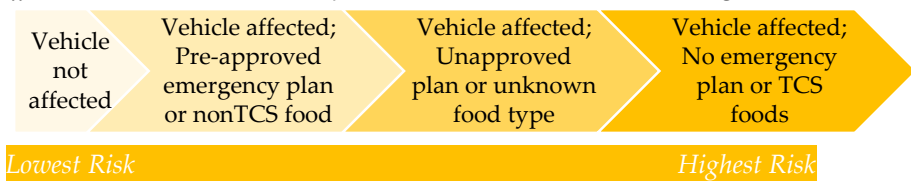
- ✓ Identify a corrective action plan that defines roles and responsibilities (for both the food establishment and pest control provider), and timelines for temporary and long-term corrections.
- ✓ Identify foods, utensils, linens, and single service items that may not be salvaged and ensure proper disposal. (*See Food Product Salvage Guide*).
- ✓ Any salvageable food products, packaging materials, equipment, utensils, linens, and single service/use items must be cleaned and sanitized or removed from the premises as necessary.
- ✓ Employee Safety and Protection Items and Procedures:
  - Rubber boots that can be washed and disinfected. Protective clothing such as coveralls or disposable outer garments, boots, and eye protection.
- ✓ All areas affected by the pest or wildlife must be cleaned and sanitized.
- ✓ During recovery and repair efforts there may be accumulated food waste, trees, branches, and building material debris. Firms should have a plan for quick removal to an approved location, if this cannot be done quickly, then the firm must plan to effectively address rodent control, insects, and other occasional invaders.

**Food Transport Accident**

Truck accidents or rollovers can cause significant damage to the food products being transported. After a food transport vehicle accident, a Food Regulator response needs to assess food safety and food handling practices for the food on the affected vehicle. Minor or single truck accidents will not usually require interface with law enforcement or a regulatory response. However, if there is multi-vehicle or major accident, the regulator may respond to determine if an Imminent Health is present. Regulators may be called afterwards and directed to a different location to assess the condition of the food product(s). Regulatory Agencies should consider the following factors when planning responses, and prior to assigning responders

1. Has there been an evacuation or other order that would require the public (including regulators) to leave the area?
2. Can Responders safely travel to facilities and safely conduct assessments?
3. Are alternative procedures or backup communication systems available?
4. Is there a set of assessment questions that all responders should be asking?

During a large-scale response, a regulatory agency will likely need to prioritize efforts based on risk. The example below shows risk on an increasing scale:



**Planning**

Food transport accidents or rollovers are spontaneous events that may not occur often in your jurisdiction. Regulators should develop a response plan for accidents to addresses issues and decisions the Regulatory Agency will have to make and minimizes uncertainty when an accident response is necessary. Pre-incident planning between regulators and law enforcement help to ensure damaged product is appropriately reconditioned, destroyed, or cleared for sale or production.

**Transport Accidents- Regulatory Agency Plan Considerations:**

- ✓ Maintain contacts and relationships with law enforcement, Federal Railroad Commission and National Transportation Safety Board, Department of Transportation, animal control, wrecker companies, and local area landfills.
- ✓ Meet with law enforcement to seek assistance in creating a process or procedure for truck accidents or rollovers.
- ✓ Ensure Responders have proper safety equipment and response equipment
- ✓ Identify necessary documents for collection, such as truck wreck form (i.e. possible inspection report form), law enforcement/fire department investigation report, bill of lading, manifest, weigh tickets from the landfill.
- ✓ Collect Photo Evidence pertinent to the response, including trailer tag number, truck tag number, damaged trailer, refrigeration unit temperature display window, trucking company information (usually on the door of the truck), potentially adulterated food.

**Assessment**

During an emergency response, Regulators may have to assess the impact of a transport vehicle accident or roll-over, to determine what areas, systems, equipment, food, and packaging may have food safety issues. If Regulators identify unsafe operations, cease operations orders are issued in accordance with state or local law or Food Code (FC 8-404.11).

***Nature, Scope, and Duration***

The nature and scope of the accident will determine the type and complexity of regulatory authority response. The circumstances will have to be assessed on a case-by-case basis. Once the accident is assessed for the type of product involved, decisions can be made on the appropriate emergency response actions. Truck investigations may take several days to complete. Supporting documentation may not be immediately available or product may remain under hold/embargo from sale pending a decision from an insurance company or pending a decision from the manufacturer.

## **Safety**

Regulator safety is priority no matter the incident size, nature, or scope.

**⚠ Safety Note:** Never enter an area or perform any job task that will result in injury or illness, and Inspectors should avoid working the scene of the incident if possible. If required on scene, upon arrival, check with the Fire Chief, Police Officer, or Incident Commander to determine safety of the site, as approval may be required prior to approaching the scene. Never approach a wreck or fire scene until the area is declared safe.

Exercise care to eliminate the chance of injury. Responders may carry, work boots, state truck seals, identification, and appropriate paperwork. Use emergency flashers when parked at the scene of an accident. Wear reflective vests. Be aware of traffic, wreckers, front-end loaders, fuel spillage, etc. Be aware of possible high conflict situations if the driver is agitated by the accident and uncooperative. If there are concerns about safety, then contact supervisor or Safety Officer IMMEDIATELY.

### ***Food Safety Considerations***

During a food vehicle accident, the primary concern for the Regulatory Authority is to quickly assess the situation to verify that no imminent health hazard is present. (FC 8-404.11). If this cannot be demonstrated, then seize or condemn all food products involved.

However, if the impact is not too severe, then continued transportation may be approved, pending initial and continued demonstration of food safety practices. If the truck intends to resume transport, then the emergency operational system and equipment impacted by the accident will have to be assessed, focusing on the following:

1. The condition of the trailer and its ability to maintain temperature.
2. Potential contamination or damaged to the food beverage load.
3. For milk products, consider leaking, broken trailer seal, potential cross contamination, and the hauler's last inspection report.
4. For live animals of any kind, consider animal size and jurisdiction.

### **Business Continuity**

If an affected transportation vehicle or company intends to continue operations after an accident, and they do not have a pre-approved emergency action plan to follow, then the Regulator must verify that the firm is able to demonstrate safe practices. In most cases, this is accomplished

by following temporary emergency procedures that have been approved by the Regulatory Authority during an assessment.

### ***Emergency Procedures:***



#### ***Trailer Condition- Intact***

If a trailer remains completely intact, there are no issues with refrigeration/freezer units, and the trailer can be hooked to another tractor and removed, this can proceed without responder involvement at the scene. If the trailer security seals have not been broken, do not break the seals to examine the load. From the Bill of Lading, obtain information as to where the load is heading and who is responsible for the product.

If the trailer remains intact, but cannot be moved causing product to be off-loaded to another trailer:

1. Exposed food or TCS food offloading should occur with a Regulator present if possible. Do not try to take temperatures, sort food, or otherwise inspect foods unless necessary to clear roadways. If first responders moved products that spilled or otherwise became potentially contaminated, prior to the Regulator's arrival, segregate for later inspection and disposition.
2. Pre-packaged, non-TCS offloading can begin prior to Regulator arrival.



#### ***Trailer Condition- Partially Intact***

If the trailer is basically intact, but open to the elements or other activities occurring with respect to the security of the scene, such as firefighting or washing of debris, then instruct the transporter to protect the food by closing trailer doors or otherwise covering the trailer and gathering spilled products to a secure location that is protected from contamination by these activities. These measures will also generally provide a longer time frame before temperature abuse of refrigerated or frozen foods become an issue.



#### ***Railroad***

The transporter should contact the 24-hour emergency hotline number. Railroads have teams of full-time personnel and environmental, industrial hygiene, hazmat, and medical consultants and contractors whose primary focus is hazmat safety and emergency response.



### ***USDA Product***

Do not break a USDA seal unless necessary, as this will require the product to be returned to a USDA facility for reinspection. If product destination is a USDA plant, USDA should be notified of product condition and supporting information.



### ***Independent Truckers***

In many truck accident cases, the driver is not a part of the company that owns the food products. Independent drivers may only own the truck involved in the accident and getting the truck back on the road will be important to their livelihood. Consider moving food to another location for assessment or disposition, so the driver can recover the truck in a shorter amount of time.

### **Recovery**

Regulatory agents **must** authorize the release of food place under seizure or embargo due to an imminent health hazard. Regulatory authorities may also have to approve the vehicle's return to regular operations.



**Recovery Considerations**

- ✓ A truck may not be able to get back on the road until law enforcement approves the release of the truck. Consider the condition and cleanliness of the truck and the ability to have the truck cleaned and sanitized.
- ✓ For milk tankers, confirm that the facility that the trucking company uses to clean milk contact surfaces (or milk products) is licensed or permitted either as part of a milk plant, receiving station, or transfer station, or a stand-alone milk tank truck cleaning facility. Regulators will also need to verify what types of milk products the milk tank truck hauls. There are certain products specified in the Pasteurized Milk Ordinance that must be transported in milk tank trucks dedicated to hauling pasteurized products.
- ✓ Product Salvage or Disposition:
  - Wholesome or undamaged foods may be allowed to re-enter commerce. Food product may or may not go back on the same truck involved in the accident.
  - Unsalvageable food product must be withheld from sale. Seek voluntary destruction. An identified wrecker company may be responsible for destruction.
  - Potentially adulterated product due must be withheld from sale until a decision is made regarding disposition. These products may be loaded onto a new truck for sorting to determine whether product will be disposed of, sent onto sale, or reconditioned.
  - Remember insurance adjusters may be present and have authority to make decisions on behalf of the manufacturer or the shipper.

**Food Product Salvage Guide****⊖ Disposal of Adulterated Food:**

If food is determined to be adulterated and therefore must be discarded, the regulatory authority must verify that the firm is completing the following as instructed:

1. Document the type and amount of food being discarded.
2. Segregate adulterated food prior to disposition.
  - a. Place food in a designated condemned food storage area away from food preparation, other food, and equipment storage.
  - b. Secure food in covered refuse containers to prevent the food from being put back into stock rotation or from being served, sold, or further processed.
  - c. Assure the food cannot accidentally contaminate wholesome food.
  - d. Clearly label or mark as "NOT FOR SALE."
  - e. 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*).
3. Disposal should be witnessed by the Regulator and done in accordance with state and local waste disposal regulations in a licensed landfill.  
*Note, landfills should be contacted to ensure acceptance of the waste.*

**⊖ Disposal of Hazardous Waste:**

If items are determined to be hazardous waste and therefore must be discarded, the regulatory authority must verify that the firm is completing the following as instructed:

1. Consider the following actions if it is determined that hazardous waste such as batteries, fluorescent lights, chemicals, etc. must be discarded:
  - a. Place hazardous waste to be discarded in a designated condemned hazmat storage area away from contaminated foods to be discarded.
  - b. The hazmat area should be away from food preparation, other food, and equipment storage areas.
2. 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.

All hazardous waste is to be disposed of in accordance with state and local waste disposal regulations in a licensed landfill or approved facility. Local landfills should be contacted prior to delivery to ensure acceptance of the waste.



**Reconditioning:**

In some cases, if the quantities of food involved are large (i.e., a 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.

**Food Salvage Assessment Guide:**

The following is a guide for handling specific food items due to specific emergency events and based on the severity of the exposure or damage. Depending on the type of damage, product affected by a pest infestation, transport vehicle accident, or other disasters may fall into one of the categories below.

ELECTRICAL DISRUPTION		
Food Product	Action	Explanation/Instruction
TCS foods at >41°F for less than 4 hours	Salvage	Must be iced or moved to a properly functioning refrigerator unit.
TCS food >41°F for more than 4 hours	Chart 1	See Chart 1 in this guide for salvage (hold, sell, serve) or discard options.
Frozen foods that remained frozen and did not thaw.	Salvage	Verify food packages show no evidence of damage such as weeping, stains, physical deterioration, or evaporation.
Frozen foods that partially thawed, but remained under 41°F.	Salvage	Must be moved to a properly working refrigerator and cooked immediately. Verify that packages show no evidence of damage such as weeping, stains, physical deterioration, or evaporation.
Non-TCS food that has thawed	Salvage	Can be sold, further processed, cooked, or donated. Appropriate notice should be provided.
Improperly cooled or hot held foods.	Discard	Food in the 41°F-135°F range can produce dangerous pathogens and toxins.

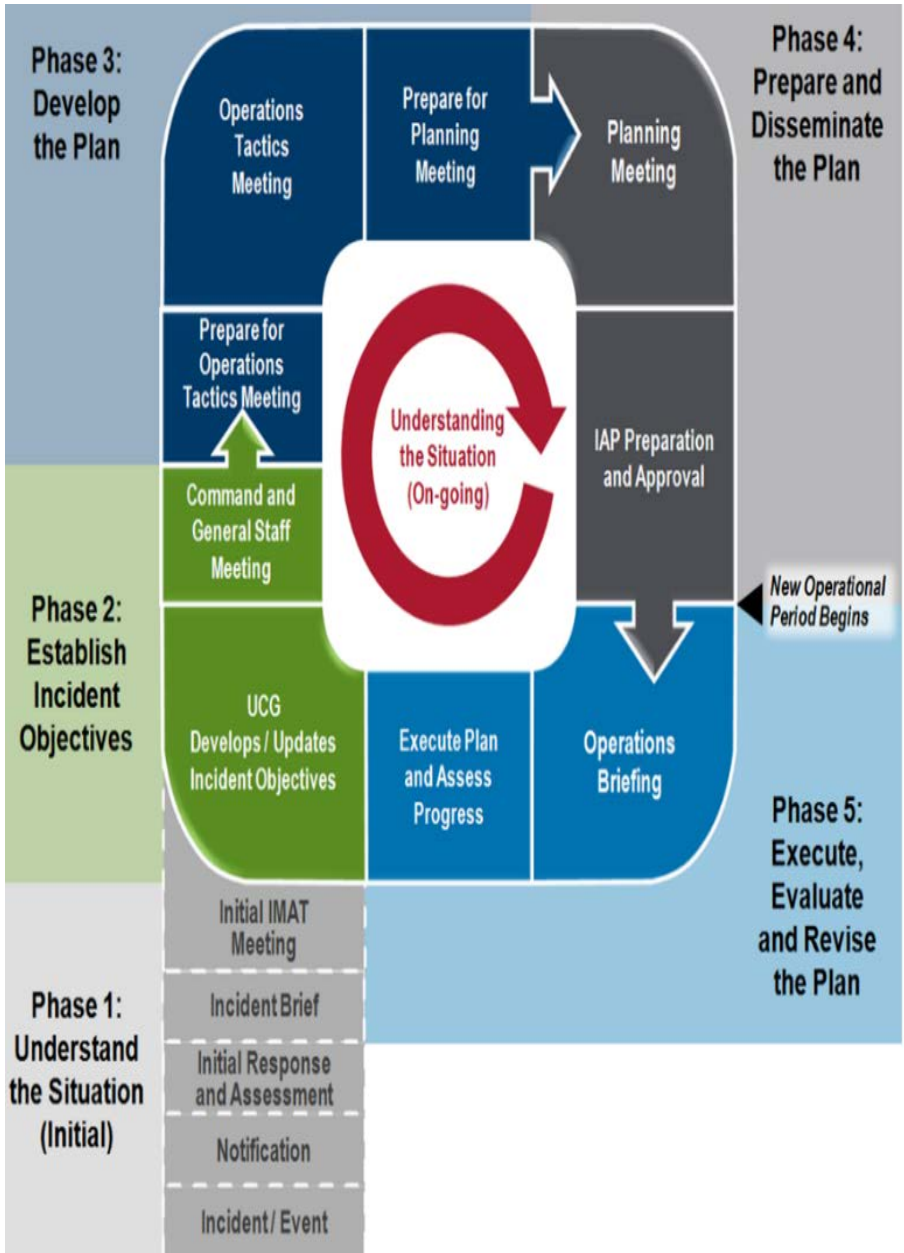
<b>CONTAMINATED WATER DAMAGE (including Flood):</b>		
<b>Food Product</b>	<b>Action</b>	<b>Explanation/Instruction</b>
Exposed or open foods, bulk foods; fresh produce, meat, poultry, fish, and eggs	Discard	Contaminants can be absorbed by exposed, fresh food items.
Foods, liquids or beverages in crown-capped bottles, pull-tab tops, corks, or screw caps, crimped-cap, twist-cap, pop-top containers	Discard	When either submerged or splashed with contaminated water or flood water, these are not cleanable under/around caps. <i>Containers returned for deposits or recycling must be drained.</i>
Foods packaged in paper, cardboard, cloth, permeable material, soft plastic, or fiber.	Discard	Even if the contents seem dry, these are an inadequate barrier to contaminated water or flood, especially if submerged.
Hermetically sealed containers (cans, pouches).	Salvage	Even if submerged or splashed, wash, rinse, sanitize, dry, relabel with all required information and codes.
Leaking, dented, rusty, or bulging hermetically sealed containers (cans, pouches).	Discard	Possible pathogenic bacteria that can produce deadly toxins.
Alcoholic Beverages (closed with cork, screw-top, twist-top, crimped cap).	Discard	Check with Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) regarding alcohol tax reimbursement (large volumes).
Cans that have been tossed about and are far from their normal storage spot	Discard	Possibility of pinholes or seam fractures
Food in glass jars, including unopened jars with waxed paper, foil, cellophane, or cloth covers	Discard	Inadequate barrier to contaminated water or flooding, especially if submerged.
Items with damaged labels	Discard	Packages without all required labeling information cannot be sold
Foods with cardboard seals	Discard	Inadequate barrier to contaminated water or flooding.

<b>SEWAGE BACKUP</b>		
<b>Food Product</b>	<b>Action</b>	<b>Explanation/Instruction</b>
Foods in metal cans or rigid plastic; or hermetically sealed containers (cans, pouches).	Salvage	If able to wash, rinse, sanitize, dry, relabel with all required information and codes.
Alcoholic beverages	Discard	Check with (ATF) regarding alcohol tax reimbursement (large volumes).
Exposed foods, bulk foods, fresh produce, meat, poultry, fish, and eggs	Discard	Contaminants can be absorbed by exposed, fresh food items.
Foods packaged in paper, cardboard, cloth, permeable material, soft plastic, or fiber.	Discard	Even if the contents seem dry, these are an inadequate barrier to sewage.
Foods with cardboard seals,	Discard	Inadequate barrier to sewage.
Food in glass jars, including unopened jars with wax paper, foil, cellophane, or cloth covers	Discard	Inadequate barrier to sewage
Foods, liquids, or beverages in crown-capped bottles, or containers with pull-tab tops, corks, or screw caps	Discard	Inadequate barrier to sewage
Cans that are dented, leaking, bulging, or rusted	Discard	Possible pathogenic bacteria that can produce deadly toxins.
Items with damaged labels	Discard	Packages without all required labeling information cannot be sold

FIRE		
Food Product	Action	Explanation/Instruction
Hermetically sealed containers (cans, pouches) with no heat damage.	Salvage	If heat and water damage was minimal, canned goods can be salvaged; clean the exterior surfaces and move to suitable storage areas.
Leaking, dented, rusty, or bulging hermetically sealed containers (cans, pouches).	Discard	Possible presence of pathogenic bacteria that can produce deadly toxins.
Packaged foods in closed coolers or freezers.	TBD	Some food may be salvage, if enclosed in a case, or walk-in freezer or cooler, no extended electrical interruption, based on severity of heat, fire, smoke, and water. Prompt removal of items.
Exposed or open foods, bulk foods; fresh or dried produce; fresh or frozen meat, poultry, and fish; and eggs produce.	Discard	If subjected to excessive heat, fire, smoke, or water damage, no attempt to salvage such products can be permitted due to vulnerable packaging.
Food or single services items in bags, paper, cloth, cardboard, or another penetrable package.	Discard	Any open food or food in penetrable packaging can be contaminated.
Food in plastic container	Salvage	If packaging can be cleaned without contaminating contents.
Food with water, heat, heavy smoke, or toxic fumes damage.	Discard	Safety and quality are compromised.
Alcoholic beverages	TBD	Check with (ATF) regarding alcohol tax reimbursement (large volumes).
Items with damaged labels	Discard	Packages without all required labeling information cannot be sold
Dairy products	Discard	No attempt to salvage if subjected to excessive heat, fire, smoke, or water, or temperature abuse.

FIRE (continued)		
Food Product	Action	Explanation/Instruction
Canned soft drinks:	TBD	May be salvaged if not been subjected to excessive heat or fire. Must be cleaned and sanitized, if necessary. If the cans have been subjected to excessive heat or are deemed unable to be cleaned, the contents must be destroyed.
Bottled soft drinks:	TBD	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. Soft drinks in plastic bottles that have been subjected to excessive heat, fire, or smoke, not salvageable. <i>Bottle contents must be drained before returning the containers for deposits.</i>
Products in glass with metal screw-type or metal slip covers	Discard	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.

# The Planning "P"





## Food Safety Consequence of Disasters Matrix

Food Safety Consequences of Disasters								
Consequence	Earthquake	Hurricane	Tornado	Flood	Drought	Fire	Hazardous Material Release	Winter Storm
Interruption of Electrical Services	4.0	4.4	4.1	3.9	2.0	3.7	2.5	4.6
Interruption of Water	4.5	4.3	3.6	4.5	4.0	3.6	3.2	3.7
Contaminated Water Supply	4.4	4.5	3.7	4.9	3.1	3.0	4.0	3.1
Sewage Back-Up	4.0	4.2	3.4	4.8	2.6	2.6	2.6	3.0
Flooding	2.8	4.6	3.0	4.8	1.8	2.1	2.3	2.7
Fire	3.9	2.6	3.2	2.4	3.9	4.9	3.7	3.0
Gas Leak	4.3	3.0	3.4	2.7	2.4	3.6	4.0	3.1
Compromised Structural Integrity	4.5	4.0	4.3	3.7	1.9	4.7	2.4	3.6
Pest Infestation	2.4	2.8	2.2	2.8	2.3	2.0	1.8	1.8
Public Concern for Safety	4.7	4.5	4.3	4.3	2.9	4.7	4.6	4.5
Interruption of Solid Waste	3.2	3.5	3.3	3.9	2.0	2.5	2.4	2.5

KEY: Risk of Food Safety Consequence by Disaster

Low		Moderate		High
1	2	3	4	5