

After a Disaster

Reopening a Retail Food Establishment

All hazards guidance for Retail Food Establishments for reopening after a flood, interruption of water service, sewage back-up, electrical or gas outage, fire, Noro-virus, and more.



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- Environmental Health Emergency Response Guide by the Advanced Practice Centers (http://www.cdc.gov/nceh/ehs/Docs/EH_Emergency_Response_Guide.pdf)
- Boulder County Food Safety Advisory Committee members
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- Other local and state stakeholders

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Reopening a Retail Food Establishment after a Disaster

*This guidance is for **after** the disaster. If you are currently experiencing an emergency and need immediate emergency response, call 911.*

There are many potential health concerns that can be created as a result of disruptions following a disaster. This document provides guidance for retail food service establishments that are resuming business in the aftermath of natural or other disasters. Prior to reopening, the establishment's "persons-in-charge (PICs)" should conduct a complete self-inspection of the facility to ensure that normal operations can be resumed safely and without compromising food safety or employee health.

Colorado Retail Food Establishment Rules and Regulations

"If an imminent health hazard exists, such as, but not limited to, absence of adequate refrigeration, no water supply, nonfunctional water heating system, server and active pest infestation, or sewage backup into the establishment, the establishment shall immediately cease food operations. Operations shall not be resumed until authorized by the Department." An "imminent health hazard" is defined 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 an operation to prevent injury or illness."

Establishments required to cease operations during an emergency or those directly affected by a natural disaster may **NOT** reopen for business until such authorization is granted by Boulder County Public Health (BCPH).

Initial Re-entry

When returning to your establishment, be aware that there may be health associated risks. Make sure all hazards have been properly mitigated, including electrical, mold, asbestos, harmful vapors, infectious disease risks, chemicals and other hazardous materials. You may need to contact a professional to safely help with mitigation of these risks. Always use appropriate personal protective equipment (PPE).

Hazardous Materials or Gas Leaks

For your own protection, if there is the potential for hazardous materials or gas leaks within the building, do not enter any damaged buildings until they have been cleared by an industrial hygienist or other proper authorities. Use appropriate personal protective equipment (PPE) to avoid exposure to mold-contaminated materials/environments or other recognized hazards.

Sanitizing and Disinfection

Regardless of the event, use chemical disinfection and sanitization procedures on equipment and structural surfaces that are salvageable. When disinfecting, do so in a manner that eliminates any harmful microorganisms, chemical residues, or filth that could pose a risk to food safety. The following bleach guidelines will be utilized in this document (see next page).

Bleach Guidance (8.25%) for Sanitizing and Disinfection of Surfaces

Purpose	PPM	Dilution	Contact Time
Food contact surface sanitizer	50-200	1 teaspoon bleach/ 1 gallon water*+	2 minutes
Routine disinfection	2400	½ cup bleach/ 1 gallon water*+	5 minutes <i>All surfaces must be rinsed and food contact surfaces must be washed, rinsed and appropriately sanitized after proper disinfection</i>
Norovirus disinfection for suspected outbreaks	5000	1 cup bleach/ 1 gallon water**+	1 minute <i>All surfaces must be rinsed and food contact surfaces must be washed, rinsed and appropriately sanitized after proper disinfection</i>

**Dilution instructions are based on EPA Registration Number 5813-100 labeled instructions for use of Clorox Regular Bleach (8.25% Sodium Hypochlorite). If a different type of bleach is used, the labeled instructions for sanitizing food contact surfaces and routine disinfection should be followed.*

***Dilution instructions are based on studies of effectiveness of bleach against norovirus. The Division of Disease Control and Environmental Epidemiology at Colorado Department of Public Health and Environment recommends using a stronger solution (5000 ppm) with a lower contact time in suspected outbreak situations.*

+Splashless and scented bleach should not be used.

Visit www.BoulderCountyFood.org or call 303-441-1564 if you have specific questions or concerns about food safety or your facility. For emergency contact after hours, call Boulder County dispatch at 303-441-4444.

Flood

In the event of a flood, stop all food operations if there was any flooding inside of the building that affects food, utensils, equipment, food preparation areas, water service, dishwashing services, etc...

Damaged Food Products

- Discard all food and packaging materials that have been submerged in flood waters unless the food is sealed in a commercially sealed can that has not been damaged. **If in doubt, throw it out!**
- Discard all refrigerated and frozen foods (e.g. meat, poultry, shell eggs, egg products, and milk) that have been immersed in flood waters.
- Inspect all canned foods, and discard any damaged cans. A can is considered damaged if it is swelling; leaking; punctured; fractured; has extensive deep rusting; or was crushed/dented severely enough to prevent normal stacking or opening with a manual, wheel-type can opener.
- Discard products in containers with screw caps, snap lids, crimped caps (e.g. soda bottles), twist caps, flip tops, snap open, and similar closures that have been submerged in flood waters.
- Discard food packed in paper, cardboard, cloth, single service items or similar containers that have received water damage.
- Undamaged, commercially prepared foods in all metal cans or retort pouches can be saved if the labels are removed and they are thoroughly washed, rinsed, and disinfected. Relabel the containers with a marker, and include the expiration date.
- Ensure disposal of food items are done according to state, and local guidance provided in response to the emergency. For further guidance see the *Food Product Evaluation Guide* at the end of the document.

Water Supply

- Municipal water supply has been verified and is no longer a threat.
- Facilities with wells that were flooded will need to properly disinfect the well *water and tested it to confirm* it is safe once the flood waters have receded.

Physical Facilities

- Thoroughly wash all interior surfaces (e.g. floors, walls, and ceilings) of the facility using a hot detergent solution made from a safe water source. Rinse all surfaces so they are free of detergents and residues, and treat them with a sanitizing solution.
- Clean, repair, and disinfect any structural components of the building (e.g., walls, piping, ceiling, and HVAC system/ventilation systems) that were affected by flood waters wherever possible to avoid mold contamination. All water-damaged wallboard must be removed and destroyed. Cement and concrete walls with mold damage may be able to be reconditioned.
- Thoroughly clean the exhaust systems and hoods, and free them from any debris. Consult professional service technicians, as needed. Water-damaged ventilation systems that cannot be thoroughly cleaned and sanitized should be removed and replaced. In all cases, replace all ventilation air filters.

Disinfection and Sanitation

- Use approved chemical sanitizers, e.g., non-scented chlorine bleach at a concentration of 2400 parts per million on equipment and structural surfaces that have been contaminated with flood waters. Disinfect in a manner that eliminates any harmful microorganisms, chemical residues, or filth that could pose a food safety risk.
- Secondary cleaning and sanitation of food contact surfaces: Perform an additional wash, rinse, sanitize step on all food contact surfaces and equipment using appropriate sanitizer concentrations. For chlorine use 50-200ppm.

Bleach Guidance (8.25%) for Sanitizing and Disinfection of Surfaces			
Purpose	PPM	Dilution	Contact Time
Food contact surface sanitizer	50-200	1 teaspoon bleach/ 1 gallon water*+	2 minutes
Post -flood disinfection	2400	½ cup bleach/ 1 gallon water*+	5 minutes <i>All surfaces must be rinsed and food contact surfaces must be washed, rinsed and appropriately sanitized after proper disinfection</i>

**Dilution instructions are based on EPA Registration Number 5813-100 labeled instructions for use of Clorox Regular Bleach (8.25% Sodium Hypochlorite). If a different type of bleach is used, the labeled instructions for sanitizing food contact surfaces and routine disinfection should be followed.*

+Splashless and scented bleach should not be used.

Pest Control

- Ensure that any rodents/pests that may have entered the facility are no longer present. Remove **dead pests**, and sanitize all food-contact surfaces that may have come in contact with pests.
- Seal all openings into the facility to prevent any future entry of pests or rodents

Menu

- Adjust the menu as necessary to adjust to staffing changes, food availability, and equipment limitations etc.

Equipment - General

- Inspect all equipment to ensure they are operational and all aspects of their integrity are maintained.
 - Discard all refrigerated display cases, storage cases, or other refrigerator equipment if the insulation, door gaskets, hoses, etc. were damaged by flood or liquefied food items.
 - Stove units should be thoroughly cleaned and checked by an authorized service representative prior to use.
- Prior to cleaning, remove all contaminated products from all refrigerated display and storage cases.
- Thoroughly wash the inside and outside of equipment with a hot detergent solution, and rinse it free of detergents and residues. Special attention should be given to lighting, drainage areas, ventilation vents, corners, cracks and crevices, door handles, and door gaskets. Treat all clean surfaces with an adequate sanitizing solution (see above for directions).

Equipment Startup Checklist

Water Filter Systems

- Clean and sanitize the water filter housings.
- Prior to the startup of the equipment, all filter(s) should be removed and replaced if not designed to be cleaned in place.
 - If designed to be cleaned in place, follow the sanitation procedures recommended by your water filter manufacturer and/or equipment service representative.
- Any system that is without a new water filter cartridge must not be placed back in service.
- Use a dishwasher or three-compartment sink and a safe water source to wash, rinse, and sanitize equipment and utensils:
 - Run the empty dishwasher through the wash-rinse-sanitize cycle three times; in order to flush the water lines and ensure that the dishwasher is cleaned and sanitized internally before it is used to wash equipment and utensils.
- Thoroughly clean and sanitize all sinks before resuming use.

Ice Makers

- Run three complete ice-making cycles and discard all ice made during those cycles.
- Clean and sanitize the icemaker bin.

Commercial Produce Misters

- Remove all produce from the bins under the misters.
- Flush water through the misters for at least 10-15 minutes.
- If removable, disconnect, clean, and sanitize the misting nozzles.
- Clean and sanitize the produce bins prior to restocking.

Fountain Dispensers

- Run each beverage valve on each dispenser for at least four (4) minutes.
- Remove, clean, and sanitize dispensing nozzles and associated removable parts.
- Clean and sanitize the ice bin, if present.

Frozen Beverage Dispensers

- Discard all products in the dispenser(s).
- Call for service and/or follow equipment manufacturer's recommendations for cleaning and sanitization.

Juice Machines

- Flush water through the unit for at least five (5) minutes on first flavor.
- Flush water through any additional flavors on same unit for at least one (1) minute.
- Call for service and/or follow equipment manufacturer's recommendations for cleaning and sanitization.

Coffee Makers /Tea Brewers

- Brew and discard at least four (4) pots of hot water per unit.

Maintaining Food Temperatures

- Verify that that all open-top, refrigerated, freezer display cases, walk-in refrigerators, and walk-in freezers consistently maintain cold holding temperatures (Less than 41°F or in a frozen state) before any food items are placed in them.
- Ensure that the hot holding equipment can heat to the appropriate cooking temperature (greater than 135°F) for hot foods.
- Verify that all equipment used for food preparation (e.g. cooking, cooling, and reheating) is functioning and properly calibrated prior to use.

Water Supply

- Ensure safe water supply; see Interruption of Water Service section and/or Boil Water Order section.

Food Product Salvage Evaluation Guide

When in doubt, throw it out! Food must be in sound condition, free from spoilage, temperature abuse, filth, or contamination in order to be fit for human consumption. Manage disposal in accordance with local rules and ordinances.

FLOOD / WATER DAMAGE		
Food Product	Action	Explanation/Instruction
Fresh fruits and vegetables	Discard	Contaminants can be absorbed by produce.
Submerged or splashed screw-top, crimped-cap, twist-cap, pop-top containers	Discard	Not cleanable under/around caps. Containers returned for deposits or recycling must be drained.
Submerged permeable (paper, cardboard, cloth, plastic etc.).	Discard	Inadequate barrier to contaminants and water.
Submerged or splashed hermetically sealed containers (cans, pouches).	Salvage	Relabel, if necessary, by removing label; wash, rinse, sanitize (50-200 ppm chlorine), dry, relabel with all required information and codes.
Leaking, dented, rusty, or bulging hermetically sealed containers (cans, pouches).	Discard	Possible presence of pathogenic bacteria that can produce deadly toxins. In additional, do not use any food products that have a foul odor or any container that spurts liquid when opening.
Alcoholic Beverages (closed with cork, screw-top, twist-top, crimped cap).	Discard	Check with the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) regarding alcohol tax reimbursement (large volumes).

Notes:

Note: Foods cannot be stored or made at a private home.

Boil Water Order

In the event a “boil water order” has been issued, a retail food facility must cease operations and contact Boulder County Public Health. Establishments intending to operate when there is a Boil Water Order may only do so with approval from Boulder County Public Health. Food operations and alternative water supplies will need to be evaluated on a case-by-case basis.

Once the water supply is no longer threatened and the boil water order has been lifted, follow these steps before reopening:

Equipment Startup Checklist

Water Filter Systems

- Clean and sanitize the water filter housings.
- Prior to the startup of the equipment, all filter(s) should be removed and replaced if not designed to be cleaned in place.
 - If designed to be cleaned in place, follow the sanitation procedures recommended by your water filter manufacturer and/or equipment service representative.
- Any system that is without a new water filter cartridge must not be placed back in service

Commercial Chemical Sanitizing and Domestic Dish Machines

- Run the empty dishwasher through the wash, rinse, and sanitize cycles three (3) times in order to flush the water lines and ensure that the dishwasher is cleaned and sanitized internally before it’s used to wash any equipment and utensils.

Food Preparation/Three-Compartment Sinks

- Clean and sanitize before use.

Ice Makers

- Run three complete ice-making cycles and discard all ice made during those cycles.
- Clean and sanitize the icemaker bin.

Commercial Produce Mistlers

- Remove all produce from the bins under the misters.
- Flush water through the misters for at least 10-15 minutes.
- If removable, disconnect, clean, and sanitize the misting nozzles.
- Clean and sanitize the produce bins prior to restocking.

Fountain Dispensers

- Run each beverage valve on each dispenser for at least four (4) minutes.
- Remove, clean, and sanitize dispensing nozzles and associated removable parts.
- Clean and sanitize the ice bin, if present.

Frozen Beverage Dispensers

- Discard all products in the dispenser(s).
- Call for service and/or follow equipment manufacturer’s recommendations for cleaning and sanitization.

Juice Machines

- Flush water through the unit for at least five (5) minutes on first flavor.
- Flush water through any additional flavors on same unit for at least one (1) minute.
- Call for service and/or follow equipment manufacturer’s recommendations for cleaning and sanitization.

Coffee Makers /Tea Brewers

- Brew and discard at least four (4) pots of hot water per unit.

Bleach Guidance (8.25%) for Sanitizing of Surfaces			
Purpose	PPM	Dilution	Contact Time
Food contact surface sanitizer	50-200	1 teaspoon bleach/ 1 gallon water*+	2 minutes

**Dilution instructions are based on EPA Registration Number 5813-100 labeled instructions for use of Clorox Regular Bleach (8.25% Sodium Hypochlorite). If a different type of bleach is used, the labeled instructions for sanitizing food contact surfaces and routine disinfection should be followed.*

+Splashless and scented bleach should not be used

Notes:

Interruption of Water Service or Lack of Hot Water

Water is necessary in most retail food facilities to wash hands, clean and sanitize surfaces, clean produce, and prepare food. If hot water is not available at your establishment, please stop food production/preparation and contact Boulder County Public Health.

During an extended disaster, allowances may be made for facilities to operate under very limited circumstances. Approval from Boulder County Public Health must be obtained prior to operating during an extended disaster. Drinking water approved for use when special permission is granted will be limited to:

- A supply of commercially bottled drinking water.
- Closed portable water containers containing potable water.
- An enclosed vehicular drinking water tank.
- An approved on-premises drinking water storage tank.
- Other, as approved by Boulder County Public Health.

Handwashing

- Cease all food preparation activities. Restrict menu items to those that are prepackaged and require no further handling. If the menu cannot be limited to prepackaged items, close the facility until potable water service returns.

Toilet Facilities

- If the water interruption is for less than two (2) hours, find a conveniently located alternative location for employees to use during operation (e.g. a neighboring facility).
- Discontinue operation if the toilet facilities are not operational.

Potable Drinking Water

- Cease operations if potable water is not available for food preparation and hand washing (unless you are only serving prepackaged foods).

Hot Water

- Ensure that hot and cold water are provided at all sinks. If hot water is not available in the facility, cease operations until hot water is available.

Cooking

- Restrict the menu to items that are prepackaged and require no further preparation.

Ice

- Use commercially manufactured ice from approved sources.

Fountain Drinks

- Discontinue service until potable water returns.

Cleaning/Sanitizing Equipment

- Unless only single-service items are used, discontinue food service until potable water service is returned and utensils, food contact surfaces, and equipment can be properly washed, rinsed, and sanitized.

Flushing Lines

If a biological water interruption occurred, see "Equipment Startup" checklist for necessary steps to flush lines.

Rusty/Brown Water

Occasionally tap water from municipal water supplies may shed rust, causing the water to temporarily turn a red or brown color. Usually the cause is due to occasional sloughing of common iron rust from the inner surfaces of drinking water pipes – this is most common in areas where unlined cast iron pipes are still used.

Changes in water pressure or flow in the drinking water distribution system due to the use of fire hydrants, construction projects, heavy water use in particular areas, or activities like a water main break can cause the water to be temporarily shut off and on, dislodging rust.

Eliminate Discoloration

- Run several cold water taps at full force for 15 minutes to help flush the rusty water out of the system. If the water is not clear after this time, wait 30 minutes and then run the water again for another 15 minutes.
- If the water still hasn't cleared after this, contact your facility's drinking water provider.
- Avoid using hot water as much as possible to help keep rusty water out of the hot water heater or boiler.

Use Alternative Water Sources

There are no known health hazards associated with rusty water; however, due to unpleasant taste and appearance, it is recommended that you:

- Wait until the water has cleared before serving it to customers for consumption, including preparing any foods requiring water.
- Avoid washing food-contact surfaces and equipment, including running dish machines until the water clears.
- Use an alternative, approved source of bottled water for consumer consumption, preparation of food, and cleaning of food equipment. Use the alternative approved water to clean food-contact surfaces by:
 - Washing, rinsing, and sanitizing all food equipment and utensils in a three-compartment sink until the water clears, and then a dish machine can be used for ware-washing operations.
 - Washing, rinsing, and sanitizing all food-contact surfaces that cannot be cleaned in a three-compartment sink.

Note: If you have been notified of a water main break in your area, or if you have any questions, please contact Boulder County Public Health at 303-441-1564. For emergency contact after hours, call dispatch at 303-441-4444.

Notes:

Sewage Backup

A sewage backup means there is an overflow of sewage from equipment or plumbing within the facility, such as from floor drains. The regulations state that sewage backup in the establishment requires that your facility immediately cease food operations until you have received authorization from Boulder County Public Health to reopen.

General Guidance in the Event of Sewage Backup

- Stop all food operations, close the facility, and notify Boulder County Public Health immediately.
- Remove any affected equipment from service. Make sure it is safe, operational, and properly functioning before returning it to service. Properly disinfect and sanitize any contaminated equipment.
- Remove the obstruction or call a plumbing service to resolve the sewer backup issue.
- Keep foot traffic away from the sewage backup.
- Discard contaminated food and single-service items.
- After the sewage is cleaned up, ensure that affected floors, surfaces and equipment are thoroughly cleaned and sanitized by:
 - Use approved chemical sanitizers, e.g., non-scented chlorine bleach at a concentration of 2400 parts per million on equipment and structural surfaces that have been contaminated with sewage. Disinfect in a manner that eliminates any noticeable dirt, debris and filth.
 - Secondary cleaning and sanitation of food contact surfaces: Perform an additional wash, rinse, sanitize step on all food contact surfaces and equipment using appropriate sanitizer concentrations. For chlorine use 50-200ppm.
- Call Boulder County Public Health at 303-441-1564 when you are ready to be reopened. For emergency contact after hours, call dispatch at 303-441-4444.

Bleach Guidance (8.25%) for Sanitizing and Disinfection of Surfaces			
Purpose	PPM	Dilution	Contact Time
Food contact surface sanitizer	50-200	1 teaspoon bleach/ 1 gallon water*+	2 minutes
Routine disinfection	2400	½ cup bleach/ 1 gallon water*+	5 minutes <i>All surfaces must be rinsed and food contact surfaces must be washed, rinsed and appropriately sanitized after proper disinfection</i>

**Dilution instructions are based on EPA Registration Number 5813-100 labeled instructions for use of Clorox Regular Bleach (8.25% Sodium Hypochlorite). If a different type of bleach is used, the labeled instructions for sanitizing food contact surfaces and routine disinfection should be followed.*

+Splashless and scented bleach should not be used.

Electrical Outage

Food safety may be compromised by electrical outages since refrigeration units may not be able to keep foods at safe temperatures, equipment may not be functional, and electric water heaters will not be able to supply hot water. In general, if the power is out for less than two hours, food kept in a refrigerator or freezer should be safe to eat. While the power is out, keep the refrigerator and freezer doors closed as much as possible to keep the food cold as long as possible. When preparing food, avoid menu items that require cooling. If your facility has been without electricity for four hours or more, contact Boulder County Public Health.

Hot Water

- Food establishment operations are required to have hot running water at all times for proper hand washing, cleaning, food preparation, etc.
- If you are experiencing an electric outage and have an electric water heater, you must cease operations until the power is returned.**

Equipment

- Verify that all equipment is safe, operational, and properly functioning.

Refrigeration

Refrigeration is a vital part of food safety within retail food establishments. Cold foods must be held at 41°F or colder to maintain food safety.

- Document what time the electricity went out.
- Keep refrigerator and freezer doors closed to conserve refrigeration.
- After the electricity is restored, check to make sure the refrigeration unit is fully functional and maintaining proper temperatures.
- Discard potentially hazardous foods that have been out of proper temperatures for 4+ hours or if it is unknown how long they've been out of ideal temperatures. Frozen foods that remain solid can be refrozen if the food shows no sign of container damage.
- Document all food that is discarded.
- If food surfaces have been contaminated from thawed food, clean and sanitize the surfaces prior to resuming food handling operating. This includes ice bins and machines that may have melted during the interruption in service.

Ventilation

- Discontinue cooking operations if mechanical ventilation is not available to remove cooking smoke, steam, or grease-laden air.

Cooking Equipment

- If hot holding units are non-operational, stop use and find alternative methods to either keep food above 135°F or below 41°F. If proper cooling methods can't be followed or food will be out of proper temperature for more than four (4) hours, then discard the food.
- Discard any potentially hazardous foods that were in cooking, cooling, or reheating processes if proper temperatures or time limits were not met. Document all food that is discarded.
- Discontinue cooking operations if cooking and holding equipment is not functional.

Lighting

Lack of artificial illumination can cause personal safety and food preparation issues and make it difficult to properly clean equipment, utensils, and surfaces.

Dishwashing Equipment

- If the dishwashing machine is not operational, use the three-compartment sink as an alternative to wash, rinse, and sanitize utensils and equipment. Hot water must be available for the facility to remain operational.
- Consider using single service ware until the dish machine is operational.

Generators

- Never use generators, pressure washers, or other gasoline-powered tools indoors. They all produce large amounts of CO that can build up to dangerous levels in minutes. Keep generators outside; however, keep generators away from windows, doors and air intakes.

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Food contact surface sanitizer	50-200	1 teaspoon bleach/ 1 gallon water*+	2 minutes

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+Splashless and scented bleach should not be used

Food Product Salvage Evaluation Guide

When in doubt, throw it out! Food must be in sound condition, free from spoilage, temperature abuse, filth, or contamination in order to be fit for human consumption. Manage disposal in accordance with local rules and ordinances.

ELECTRICAL OUTAGE		
Food Product	Action	Explanation/Instruction
Refrigerated foods (PHF, TCS food >41°F for more than 4 hours).	Discard	
Refrigerated foods at >41°F for less than 4 hours.	Salvage	Must be iced or moved to a properly functioning refrigerator unit.
Frozen foods that remained frozen and did not thaw.	Salvage	
Partially thawed frozen foods that remained under 41°F.	Salvage	Must be moved to a properly functioning refrigerator unit and cooked immediately.
Improperly cooled or hot held foods.	Discard	Food in the 41°F-135°F temperature range can produce dangerous pathogens and toxins.

Natural Gas Outage

Hot Water

- Food establishment operations are required to have hot running water at all times for proper hand washing, cleaning, food preparation, etc.
- If your facility uses a gas water heater and is experiencing a natural gas outage, you must cease operations until the gas service is returned.**

Heat

- If your facility requires natural gas for general heating purposes, take protective measures (e.g. let the faucets drip a little, etc.) to avoid freezing of the water pipes.

Cooking

- If your facility has an electric water heater but you normally use natural gas for cooking operations, limit your menu to items that do not require natural gas stoves and ovens for cooking or reheating. All foods must be cooked to proper temperatures.

Chemical Incidents and Other Noxious Fumes

Chemicals can contaminate the air we breathe, along with water, food, surfaces and people. Appropriate clean-up is dependent on the cause of the noxious fumes. To minimize workplace chemical incidents involving hazardous materials personnel should be properly instructed in their use. All hazardous materials should be stored in their original container, properly labeled and only used according to directions. Hazardous materials like cleaning solutions and chemicals should always be stored in a separate well-ventilated area away from heat, food and single service items. For example, every day chemicals such as bleach can become toxic when mixed, stored or used improperly.

Additionally, malfunctioning equipment can also cause noxious fumes and gases such as smoke or carbon monoxide which may be hazardous to building occupants; mitigation of the problem will be dependent on the piece of equipment.

- After the affected area has been evacuated and the initial emergency response has been properly dealt with by emergency responders, call the health department for specific guidance from an industrial hygienist for your specific situation, 303-441-1564. For emergency contact after hours, call dispatch at 303-441-4444.

Fire

If a large fire occurs in your facility, cease all operations until the facility has been cleared by Boulder County Public Health and the Fire Department. If there is a substantial fire, a plan review and/or building permits may be required. Food that has been exposed to fire can be compromised by four factors: heat from the fire; smoke fumes; chemicals used to fight the fire; and power outage as a result of the fire.

Heat

Discard food in cans or jars if they have been close to the heat of a fire. Heat from a fire can activate food spoilage bacteria. If the heat is severe, the cans or jars can split or rupture and are not safe to consume.

Smoke Fumes

Toxic fumes released from burning materials are one of the most dangerous elements of a fire. The fumes can be hazardous and can contaminate food.

Chemicals Used to Fight Fires

Chemicals used to fight fires contain toxic materials that can contaminate food and cookware. While some of the chemicals may be listed as nontoxic to humans, they can be harmful if swallowed. These chemicals cannot be washed off of food.

Power Outage

Refrigerated items should be discarded if the electricity has been off for more than four hours. See the “Electrical Outage” section.

Post-Fire Facility Checklist

- Ensure that the fire department has cleared the facility building to be structurally sound and safe for occupancy before entering.
- Notify Boulder County Public Health about the fire in your facility prior to reopening.
- Identify whether water service is operational. Lack of potable water will likely result in closure due to the inability to properly wash hands, dishes, and clean the facility.
- Identify if the wastewater system is operational. Lack of adequate wastewater services will result in closure of the facility.
- In the event of sewage backup, wash, rinse, and sanitize all food surface areas. Ensure that the floors and surfaces are also thoroughly cleaned and sanitized. See the “Sewage Backup” section for more information.
- Identify if electrical services are operational; if not, identify how long the power will be out. The facility may need to close if critical operational needs can’t be met (e.g. keeping food at proper temperatures).
- Verify that all equipment is operational and functioning properly.
- Identify and discard any potentially hazardous foods that have been kept between 41° F and 135° F for more than four hours:
 - Check food temperatures in the walk-in cooler and cold top to ensure they are 41° F or colder. Check hot holding units to verify food is hot held above 135° F.
 - Check food temperature logs for records of when temperatures were last verified. Without logs there can be no way to verify how long foods have been out of temperature.
 - Food that has not been out of temperature for more than four hours can be rapidly cooled (below 41°F) or reheated (above 165°F and then hot held above 135°F) to avoid condemnation.
- Identify and discard any potentially contaminated foods or single-service products that can’t be cleaned (e.g. paper cups, plastic spoons, etc.).
- Discard any unprotected produce.
- Discard all opened cans or bottles. Canned goods that have not been damaged or affected by heat can be salvaged by cleaning the exterior of the containers and moving them to a suitable storage area.

- Discard products in vulnerable packaging (e.g. flour, sugar, rice, or grains) if the packaging has been affected or damaged in any way. See the “Food Product Evaluation Guide” at end of document.
- Perform a wash, rinse, sanitize step on equipment and food-contact surfaces that have been exposed to contaminants using appropriate sanitizer concentrations. For chlorine use 50-200ppm.

Bleach Guidance (8.25%) for Sanitizing and Disinfection of Surfaces			
Purpose	PPM	Dilution	Contact Time
Food contact surface sanitizer	50-200	1 teaspoon bleach/ 1 gallon water*+	2 minutes
Routine disinfection	2400	½ cup bleach/ 1 gallon water*+	5 minutes <i>All surfaces must be rinsed and food contact surfaces must be washed, rinsed and appropriately sanitized after proper disinfection</i>

**Dilution instructions are based on EPA Registration Number 5813-100 labeled instructions for use of Clorox Regular Bleach (8.25% Sodium Hypochlorite). If a different type of bleach is used, the labeled instructions for sanitizing food contact surfaces and routine disinfection should be followed.*

+Splashless and scented bleach should not be used.

Food Product Salvage Evaluation Guide

When in doubt, throw it out! Food must be in sound condition, free from spoilage, temperature abuse, filth, or contamination in order to be fit for human consumption. Manage disposal in accordance with local rules and ordinances.

FIRE		
Food Product	Action	Explanation/Instruction
Hermetically sealed containers (cans, pouches) with no heat damage.	Salvage	No bulged ends or ruptured seams; use a clean cloth or tissue to remove any residue on container.
Leaking, dented, rusty, or bulging Hermetically sealed containers (cans, pouches).	Discard	Possible presence of pathogenic bacteria that can produce deadly toxins. In addition, do not use any food products that have a foul odor or any container that spurts liquid when opening.
Foods in closed coolers or freezers.	TBD	Evaluate for smoke damage or temperature abuse
Exposed food products, produce.	Discard	Subject to contaminants in smoke and fire suppression chemicals.
Food in paper, cardboard, cloth containers, single services items or other penetrable package.	Discard	Any open food or food in penetrable packaging can be contaminated.
Food in sealed, plastic container if it can be cleaned without contaminating contents.	Salvage	

Clean-up and Disinfection for Norovirus (“Stomach Bug”)

According to the CDC, “Norovirus is the leading cause of outbreaks of diarrhea and vomiting in the U.S., and it spreads quickly and easily. Norovirus spreads by contact with and infected person or by touching a contaminated surface or eating contaminated food or drinking contaminated water. Norovirus particles can even float through the air and then settle on surfaces, contaminating them.”

Bleach Disinfection Method for Cleaning of Vomit and Fecal Accidents (for surfaces that can tolerate a high concentration of bleach):

- Get a 2½ to 5 gallon bucket with a lid.
- The person cleaning up the area should use disposable gloves, mask, and gown or coverall to avoid direct contact with fecal material or vomit, and any potentially contaminated surface. Safety glasses can be worn as well.
- Mix a bleach disinfectant solution of one cup household, non-scented bleach with 1 gallon water (this will be a 5000 ppm bleach solution). This is a concentrated solution so handle with care.
- Obtain disposable paper towels or disposable rags for the cleanup.
- Apply disinfectant solution directly onto the contaminants (vomit or feces), cover with the disposable towels/rags and allow the disinfectant to contact the materials for at least 10 minutes.
- Carefully pick up the contaminants with the towels/rags. Place all soiled towels/rags in a trash bag.
- Use the disinfectant solution again to spray the affected surface and wipe down with clean towels/rags. Place all soiled towels/rags in a trash bag.
- Apply disinfectant to the cleaned surface again and let stand for at least 1 minute while air drying.
- Carefully remove the disposable gloves, mask, and gown or coverall and place in the trash bag. If safety glasses are worn, they should be disposed as well, or sprayed with the bleach solution and allowed to air dry.
- Place the trash bag containing the soiled towels/rags and gloves, mask, and gown within another trash bag. Make sure the bags go directly to the dumpster.
- Any commonly touched surfaces (like door knobs, hand rails, elevator buttons, faucet handles, etc.) in the vicinity (within a 25 foot radius) of where the vomit or fecal accident occurred should be wiped down with the bleach solution.
- Be sure to wash hands after cleanup with soap and hot water, rubbing hands together for at least 20 seconds. An alcohol-based hand sanitizer can be applied after handwashing (but hand sanitizers should NOT take the place of proper handwashing with soap and hot water).

Contaminated linens (sheets, blankets, towels, etc.) can be washed in hot water with detergent and bleach (if bleach will not damage the material) and dried in a hot dryer. Soiled carpets and upholstery are very difficult to fully disinfect and may it may not be feasible to use the bleach solution if damage to the material will occur. Consider using a different disinfectant that is effective against norovirus that will not damage the material (see the EPA website mentioned above). Steam cleaning these types of surfaces after cleaning up the vomit or fecal material can be helpful. Air dry rugs and furniture in the sunlight after attempted disinfection and steam cleaning.

Food Contact Surfaces

- Initial disinfection of all contaminated food contact surfaces: Use non-scented chlorine bleach at a concentration of 5000 parts per million (ppm), on equipment and structural surfaces that have been

contaminated. Disinfect in a manner that eliminates any harmful microorganisms, chemical residues, or filth that could pose a food safety risk.

- Secondary cleaning and sanitation of food contact surfaces: Perform an additional wash, rinse, sanitize step on all food contact surfaces and equipment using non-scented chlorine bleach at 50-200 ppm.
- Air dry surfaces

Bleach Guidance (8.25%) for Sanitizing and Disinfection of Surfaces			
Purpose	PPM	Dilution	Contact Time
Food contact surface sanitizer	50-200	1 teaspoon bleach/ 1 gallon water*+	2 minutes
Norovirus disinfection for suspected outbreaks	5000	1 cup bleach/ 1 gallon water**+	1 minute <i>All surfaces must be rinsed and food contact surfaces must be washed, rinsed and appropriately sanitized after proper disinfection</i>

**Dilution instructions are based on EPA Registration Number 5813-100 labeled instructions for use of Clorox Regular Bleach (8.25% Sodium Hypochlorite). If a different type of bleach is used, the labeled instructions for sanitizing food contact surfaces and routine disinfection should be followed.*

***Dilution instructions are based on studies of effectiveness of bleach against norovirus. The Division of Disease Control and Environmental Epidemiology at Colorado Department of Public Health and Environment recommends using a stronger solution (5000 ppm) with a lower contact time in suspected outbreak situations.*

+Splashless and scented bleach should not be used.

Notes:

Emergency Contact Information

Name	Phone Number	Emergency Number	Notes
Facility Info			
Manager			
Regional Office			
Insurance Company			
Food Supplier			
Emergency			
Fire		911	
Police		911	
Ambulance		911	
Poison Control			
Public Utilities			
Water Utility			
Sewer			
Electricity			
Gas			
Contractors			
Refrigeration Repair			
Plumber			
Electrician			
Licensed Water Hauler			
Refrigerated Truck			
Cleaning Equipment Supply Co			
Building Restoration Specialist			
Other			
BCPH Food Safety	303-441-1564	303-441-1564	After Hours Dispatch: 303-441-4444
City Building Code Officials			

Food Product Salvage Evaluation Guide

FLOOD / WATER DAMAGE		
Food Product	Action	Explanation/Instruction
Fresh fruits and vegetables	Discard	Contaminants can be absorbed by produce.
Submerged or splashed screw-top, crimped-cap, twist-cap, pop-top containers	Discard	Not cleanable under/around caps. Containers returned for deposits or recycling must be drained.
Submerged permeable (paper, cardboard, cloth, plastic etc.).	Discard	Inadequate barrier to contaminants and water.
Submerged or splashed hermetically sealed containers (cans, pouches).	Salvage	Relabel, if necessary, by removing label; wash, rinse, sanitize (100 ppm chlorine), dry, relabel with all required information and codes.
Leaking, dented, rusty, or bulging hermetically sealed containers (cans, pouches).	Discard	Possible presence of pathogenic bacteria that can produce deadly toxins. In addition, do not use any food products that have a foul odor or any container that spurts liquid when opening.
Alcoholic Beverages (closed with cork, screw-top, twist-top, crimped cap).	Discard	Check with the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) regarding alcohol tax reimbursement (large volumes).
ELECTRICAL OUTAGE		
Food Product	Action	Explanation/Instruction
Refrigerated foods (PHF, TCS food >41°F for more than 4 hours).	Discard	
Refrigerated foods at >41°F for less than 4 hours.	Salvage	Must be iced or moved to a properly functioning refrigerator unit.
Frozen foods that remained frozen and did not thaw.	Salvage	
Partially thawed frozen foods that remained under 41°F.	Salvage	Must be moved to a properly functioning refrigerator unit and cooked immediately.
Improperly cooled or hot held foods.	Discard	Food in the 41°F-135°F temperature range can produce dangerous pathogens and toxins.
FIRE		
Food Product	Action	Explanation/Instruction
Hermetically sealed containers (cans, pouches) with no heat damage.	Salvage	No bulged ends or ruptured seams; use a clean cloth or tissue to remove any residue on container.
Leaking, dented, rusty, or bulging Hermetically sealed containers (cans, pouches).	Discard	Possible presence of pathogenic bacteria that can produce deadly toxins. In addition, do not use any food products that have a foul odor or any container that spurts liquid when opening.
Foods in closed coolers or freezers.	TBD	Evaluate for smoke damage or temperature abuse
Exposed food products, produce.	Discard	Subject to contaminants in smoke and fire suppression chemicals.
Food in paper, cardboard, cloth containers, single services items or other penetrable package.	Discard	Any open food or food in penetrable packaging can be contaminated.
Food in sealed, plastic container if it can be cleaned without contaminating contents.	Salvage	
Food with water, heat, heavy smoke, or toxic fumes damage.	Discard	Safety and quality are compromised.

