U.S. Food and Drug Administration
Protecting and Promoting *Your* Health

Restaurants and Grocers Reopening After Hurricanes and Flooding

Following a natural disaster there are potential health concerns that can be created by the disruptions caused by the disaster. This publication provides food safety suggestions and information for retail and foodservice establishments resuming business in the aftermath of natural or other disasters. Prior to reopening, establishment persons-in-charge (PICs) should conduct a complete self-inspection to ensure that normal operations can be resumed safely and without compromising food safety. **Establishments required to cease operations in an emergency or those affected by a natural disaster should not re-open until authorization is granted by the local or state regulatory authority.**

Do not enter a flood damaged building where there is potential for hazardous materials or gas leaks within the building, until the building has been cleared by a hazardous materials (HAZMAT) team. For exposures to mold-contaminated materials/environments, or other recognized hazards, NIOSH approved respirators may be necessary. If entering and cleaning a building, refer to NIOSH protective equipment guidance.

Decontamination and sanitization procedures using chemical sanitization, e.g., chlorine bleach at a concentration of 100-200 ppm (1 tablespoon of bleach in 1 gallon of potable water), Quaternary Ammonium at a concentration of 200 ppm, or other approved sanitizers, should be used on equipment and structural surfaces that are salvageable. When you decontaminate, do so in a manner that eliminates any harmful microorganisms, chemical residues, or filth that could pose a food safety risk.

Pest Control

- Ensure that any rodents/pests that may have entered the facility are no longer present. Remove dead pests and sanitize any food-contact surfaces that have come in contact with pests.
- Seal all openings into the facility to prevent future entry of pests, or rodents.
- Dispose of contaminated or spoiled solid foods in closed containers for removal to prevent rodent and fly harborage.

Damaged Food Products

- Discard all food and packaging materials that have been submerged in flood waters, unless the food is sealed in a hermetically sealed can that has not been damaged.
  - Destroy refrigerated and frozen foods, such as meat, poultry, shell eggs, egg products, and milk, which have been immersed in flood waters. Good advice is: **If in doubt, throw it out**.
  - Inspect canned foods and discard any food in damaged cans. Can damage is shown by swelling; leakage; punctures; holes; fractures; extensive deep rusting; or crushing/denting severe enough to prevent normal stacking or opening with a manual, wheel-type can opener.

- Do not recondition products in containers with screw-caps, snap-lids, crimped-caps (soda pop bottles), twist-caps, flip-top, snap-open, and similar type closures that have been submerged in flood waters.
- Do not salvage food packed in plastic, paper, cardboard, cloth, and similar containers that have been water damaged.
- Undamaged, commercially prepared foods in all-metal cans or retort pouches can be saved if you remove labels that can come off, thoroughly wash the cans, rinse them, and then disinfect them with a sanitizing solution consisting of 1 tablespoon of bleach per gallon of potable water. Finally, re-label containers that had the labels removed, including the expiration date, with a marker.

- Complete proper and safe disposal of condemned food items in a manner consistent with federal, state, and local solid waste storage, transportation, and disposal regulations, to ensure these products do not reappear as damaged or salvaged merchandise for human consumption.

Physical Facilities

- If you have a well that has been flooded, the water should be disinfected and tested to confirm it is safe after flood waters recede. If you suspect that your well may be contaminated, contact your local or state health department or agriculture extension agent for specific advice.
- Thoroughly wash all physical facility interior surfaces (e.g., floors, walls, and ceilings), using potable water, with a hot detergent solution, rinsed free of detergents and residues, and treated with a sanitizing solution.
- Mold contamination is a concern. Structural components of the building (e.g., walls, piping, ceiling, and HVAC system/ventilation systems) affected by flood waters or other damage from the hurricane, should be cleaned, repaired, and disinfected, where possible. Remove and destroy wall board that has been water damaged. Cement walls that have mold damage can be reconditioned.
- Any exhaust systems and hoods should be thoroughly cleaned and freed of 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.

Equipment

- Thoroughly wash metal pans, ceramic dishes, and utensils (including can openers) with soap and hot water. Rinse, and then sanitize them by boiling in potable water or immersing them for 15 minutes in a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water or other approved sanitizer. Follow instructions on the sanitizer label for appropriate concentration.
- Thoroughly wash countertops, equipment and non-food contact surfaces with soap and hot water. Rinse, and then sanitize by applying a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water or other approved sanitizer. Allow to air dry.
- A dishwasher or 3-compartment sink should be used to wash, rinse, and sanitize equipment and utensils using potable water, and:
  - Chlorine bleach at a concentration of 50-100 ppm or other approved sanitizers should be provided for sanitizing food contact surfaces and equipment.
  - Mechanical dishwashing machines should provide a final, sanitizing rinse of either 50 ppm chlorine (for chemical sanitizing machines) or 180°F final sanitizing rinse (for hot water sanitizing machines).

  - An approved test kit should be available to ensure appropriate sanitizer strength for chemical sanitizing and a maximum registering thermometer or temperature sensitive tape should be available to check that the hot water reaches 180°F or the utensil surface reaches a temperature of 165°F.
  - Run the empty dishwasher through the wash-rinse-sanitize cycle three times to flush the water lines and assure that the dishwasher is cleaned and sanitized internally before washing equipment and utensils in it.
- Refrigerated display and storage cases and other refrigerator equipment used to store food should be cleared of all contaminated products and their juices prior to cleaning.
- Refrigerated storage equipment should be thoroughly washed inside and outside with a hot detergent solution and rinsed 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 a sanitizing solution.
- If the insulation, door gaskets, hoses, etc. are damaged by flood or liquefied food items, then replace or discard these refrigerated display cases and storage cases and other refrigerator equipment.
- All filters on equipment should be removed and replaced if not designed to be cleaned in place.
- Replace all ice machine filters and beverage dispenser filters, and flush all water lines, including steam water lines and ice machine water lines, for 10 to 15 minutes.
- Discard all ice in ice machines; clean and sanitize the interior surfaces (ice making compartment and storage bin); run the ice through 3 cycles; and discard ice with each cycle.
- All sinks should be thoroughly cleaned and sanitized before resuming use.
- Equipment should be inspected to ensure it is operational and that all aspects of its integrity are maintained.
- Stove units should be thoroughly cleaned and checked by the fire department, local utility company, or authorized service representative prior to use.

Maintaining Food Temperatures

- Verify that that all open-top and refrigerated and freezer display cases, walk-in refrigerators, and walk-in freezers are capable of consistently maintaining cold holding temperatures (≤41°F or in a frozen state) before food items are placed in the units.
- Ensure that the equipment can heat to the appropriate cooking temperature hot (≥135°F) for raw animal foods and to cool to maintain potentially hazardous foods cold at the appropriate (≤41°F) temperature.
- Verify that all equipment used for food preparation (e.g., cooking, cooling, and reheating) is functioning and properly calibrated prior to use.

Employees

- Put fewer items on the menu when only a limited number of trained employees are available and working. A full menu may be offered when there is an adequate number of trained employees to staff each area of the operation during normal working hours.
- Soap and potable running, warm water (at least 100°F) should always be used to wash hands.
- Alcohol hand gels may only be used **after handwashing**. Alcohol hand gels are ineffective against germs on soiled hands and are therefore not a substitute for soap and water handwashing.

- Employees should not touch ready-to-eat foods with their bare hands, but instead should use tongs, deli paper, or single-use, disposable gloves.
- Remember:
  - Employees with open wounds should not work with hands-on preparation of foods or with cleaned and sanitized food contact surfaces or single-service/single-use utensils. If these infected wounds are covered with a double, water-proof barrier such as a finger cot or water-tight bandage and plastic gloves, the employee may continue to work with food.
  - Employees sick with vomiting, diarrhea or jaundice should not be working in the establishment and may not return to work until at least 24 hours after the symptoms cease.

Food Source and Receipt

- All foods, including raw, fresh, frozen, pre-packaged, shelf-stable, and ready-to-eat foods, should only be received from a licensed and an approved food source. This includes food distributors and vendors licensed by the local or state regulatory food authority.
- Food should be received by a person who is responsible for ensuring that food packages meet temperature requirements and are intact with no breaks, seams, or other openings. Canned foods should not be swollen or have any dents or punctures in the cans.
- Foods requiring temperature control should be received in a frozen state or at temperatures less than 41°F for refrigerated storage.