A GUIDE TO FOOD SAFETY IN EMERGENCIES

Connecticut Department of Consumer Protection
Food & Standards Division
165 Capitol Avenue
Hartford, CT 06106

Table of Contents

INTRODUCTION[1]

Food products may become contaminated or distressed from a variety of events including transportation accidents, chemical spills, fires, floods, power outages, or ammonia leaks from commercial refrigeration units. These guidelines provide the basic information to food establishments and procedures the operator can follow when these conditions are encountered. They serve to assist in the prevention and reduction of food-borne illness by providing direction on food related issues arising from floods, fires, power outages or other situations that may affect food safety.

PERSONAL SAFETY

Disasters can produce dangerous situations so it is critical to use care and observe all safety precautions. Food establishment operators should call appropriate professionals to examine the facility prior to employees or customers re-entering the building after an incident. For example, in situations where electrical power has been out for an extended time and where operators attempt to salvage frozen or refrigerated products using dry ice, do not enter these areas without first providing for proper ventilation and/or obtaining oxygen breathing apparatus if you are trained to use the equipment.

IMMINENT HEALTH HAZARDS

Keep in mind if an imminent health hazard exists, the department may, without prior warning, notice, or hearing, suspend a permit or issue a cease and desist order and require that the food establishment immediately stop operating if no immediate correction or containment that is acceptable to the department is available.

Imminent Health Hazard Includes:

- The extended loss of potable water supply
- An extended power outage
- A sewage backup into a food establishment or onto the grounds of a food establishment
- A natural disaster
- A major insect or rodent problem
- One or more employees sick with a food-borne illness
- A food-borne outbreak

[1] Materials in this document are based upon a similar document produced by the State of Alaska Food Safety and Sanitation Program, http://www.dec.state.ak.us/eh/fss/

Power Outage

OPERATORS-DO THIS FIRST!

Close the facility.

It's not safe to operate without lights, refrigeration, ventilation, or hot water.

Write down the TIME when the power outage occurred.

Your food safety "time clock" starts ticking when the power goes out.

Begin taking regular food TEMPERATURE readings.

- ❖ Have a food thermometer at-the-ready at all times.
- ❖ Check hot foods every hour and cold foods every two hours.
- ❖ Keep a time/temperature record for every item checked in every unit.

FOOD SAFETY FACTORS

The key factors to consider when a facility encounters power outage are time and temperature. How long was the power out, and what were the resultant temperatures? Food products in walk-in refrigerators must be capable of consistently maintaining cold holding temperatures at 45°F or below or for food in freezers in a frozen state. Be sure to keep a log and take times and temperatures of foods that are affected.

Watch these four food conditions carefully:

1. Foods being cooked during a power interruption.

- ❖ Do not serve any partially cooked food.
- ❖ If power outage is brief (under 1 hour), rapidly reheat without interruption to 165°F within two hours or less before serving.
- ❖ If power is out for more than 1 hour, discard all partially cooked food.

2. Foods being held hot (e.g., 135˚F or above in a warmer)

- ❖ Once food is below 135°F for more than four hours, discard it.
- ❖ If food is below 135°F for less than four hours, rapidly reheat without interruption to 165°F within two hours or less before serving.

3. Foods being held cold (e.g., 45˚F or below in a refrigerator, (41˚F or below for meat storage and 40˚F or below for dairy)

- Write down time when food rises above the indicated temperature.
- If food cannot be re-chilled to the indicated temperature or less within four hours, discard it.

4. Frozen foods that thaw out

- If thawed or frozen food exceeds 41°F for more than four hours, discard it.
- Partial thawing and refreezing may reduce the quality of some food.

FACILITIES ROAD TO RECOVERY

Keeping cold foods cold longer

- Keep refrigerator doors closed, except while checking temperatures every two hours.
- Cover open coolers with tarps or blankets. (*Note these can help maintain temperatures but can not cool foods.)*
- Avoid adding hot foods to refrigerators.
- Group chilled foods together to reduce warming.

After the power comes back on:

- Decide which foods to discard and which to salvage using time/temperature records and food safety factors described here.
- Verify electrical breakers, equipment, and all utilities are in working order.
- Make sure hot water is adequately heated for hand and ware washing.
- Clean and sanitize equipment and utensils as needed.
- Contact local health or Department of Consumer Protection before reopening.

Reduce the impact of a power outage by:

- Canceling incoming food supply shipments.
- Transferring food to off-site cold storage facilities.
- Placing dry ice blocks in refrigerators/freezers. A 25-pound block of dry ice can keep a 10-cubic-foot freezer cold for up to four days.

(Note: Dry ice produces carbon dioxide gas that should be ventilated.)

READY TO REOPEN?

You're ready to reopen only after making sure the food you are serving is safe.

HINTS FOR THE FACILITY

POTENTIALLY HAZARDOUS FOODS (PHF)

Foods to be most concerned about during a power outage include various egg, milk and meat products, cut melons and other perishables. Harmful microorganisms can grow in these foods and cause illnesses when between 41°F and 135°F. Examples:

- Meat and meat dishes

- Mixed dishes (soups, stews, casseroles, pasta/rice)
- Dairy and egg products (milk, eggs, cream sauces, soft cheeses)
- Cut melons, cooked vegetables (cut watermelon, honeydew, cooked peas, potatoes and other vegetables)
- Some desserts (pumpkin pie, custard-filled pastry, cheesecake, meringue, chiffon), check to see if the products are shelf stable

NON-POTENTIALLY HAZARDOUS FOODS (non-PHF)

These foods may be kept at room temperature. Harmful microorganisms usually do not grow on these foods. Discard these foods if quality deteriorates or mold grows on them. Examples:

- Breads, dry flour, dry pasta, dry rice, sugar
- Vinegar-based dressings, ketchup, relish, mustard, condiments
- High-sugar foods (jellies, fruit pies, dried fruit, juices)
- Hard cheeses, solid butter, whole fresh fruits/vegetables

FLOOD OR SEWAGE BACK-UP

All water, regardless of its source, must be considered a pollutant because of the possibility of overflowing sewers, pit privies, and street run-off water.

OPERATORS-DO THIS FIRST!

DECIDE: STAY OPEN OR CLOSE, (operators should always notify local health or the Department of Consumer Protection in the event of a flood or sewage back-up)

- Stay open – if flooding or the sewage back-up is minimal, contained and can be quickly corrected.
- Close – if any food storage, prep or service area is at risk of contamination.

Note: Flood waters and sewage can contain rotting food, feces, chemicals and disease-causing organisms which will contaminate the operation and easily cause food-borne illnesses. If flooding or sewage back-up can not immediately be contained and cleaned up, the facility should be closed..

GET HELP

If facility has been flooded or sewer has backed up:

- Call DCP or Local Health (for response and clean-up advice).
- Call the city building inspector (to determine safety of structure).
- Call utility companies (to assure safety of gas, electric and telephone).
- Call a sewage-pumping contractor (if septic tank is flooded).
- Call a well contractor (for disinfection of contaminated well water).
- Call your property insurance company (to file a possible claim)
- Call a licensed plumber to remove blockages in drain lines.
- Call a sewage-pumping contractor if septic tank is overfilled.

FOOD SAFETY FACTORS

FOOD

Discard all food and packaging materials that have been in contact with flood waters, unless the food is sealed in a hermetically sealed can that has not been damaged. The can should be cleaned, sanitized and relabeled before use.

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 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. Allow the product to air dry.

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.

Chlorine Bleach Sanitizing Solution Formula for Equipment and Structural Surfaces

- A 100-200ppm chlorine bleach sanitizing solution can be prepared by combining 1 tablespoon of bleach with 1 gallon of potable water

EQUIPMENT

Equipment and utensils affected by floodwater should be cleaned and sanitized prior to use. Refrigerators and freezers should be left open to air dry after cleaning.

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 in a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of potable water or other approved sanitizer then allow to air dry. Follow instructions on the sanitizer label for appropriate concentration and usage.

Thoroughly wash countertops, equipment and non-food contact surfaces with soap and hot water. Rinse, then sanitize by applying a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water or other approved sanitizer.

- 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 160°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 prior to cleaning and sanitizing. Special attention should be given to lighting, drainage areas, ventilation vents, corners, cracks and crevices, door handles and door gaskets.

- If the insulation, door gaskets, hoses, etc. are damaged by flood or liquefied food items, then replace or discard these items 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.

PHYSICAL FACILITY

Foundations, walls, doors and windows may be damaged and need repair. Repairing any damage immediately will help prevent further damage and wear in the future.

- Replace or repair damaged surfaces (floors, walls and ceilings).

- Scrub and sanitize all floors, walls and ceilings with a 100 to 200ppm chlorine solution or designated sanitizer.

- Water damaged ventilation systems that cannot be thoroughly cleaned and sanitized should be removed and replaced. In all cases, replace all ventilation air filters.

- Electrical components, motor condensers, and other mechanical components should be checked by a qualified electrician or service technician for safety and efficient operability.

The interior and all direct or indirect food contact surfaces or parts must be effectively cleaned, rinsed, and sanitized; particular attention should be paid to all exposed condensers, refrigeration coils, fans, shields, shelving, and other parts attached to the interior of refrigeration equipment to preclude the possibility of airborne contaminants.

The exterior, and all non-food contact parts of food equipment must be thoroughly cleaned, and sanitized where practical; where insulation is contained within walls, check to determine whether it is wet; in the case of refrigeration equipment, if the insulation is foam and is not wet, proper cleaning procedures may be used; if it is wet, repairs may be needed to restore effective insulating qualities prior to use. Any open seams or crevices created by flood damage should be sealed with a smooth bead of silicone caulking.

HINTS FOR THE FACILITY

REENTERING THE FACILITY

- Wear eye protection, rubber boots and gloves and outer protective clothing (coveralls or long-sleeve shirts and long pants) when handling items contaminated with flood or sewer water.
- If mold problems are identified, wear a properly fitted filtration mask that carries the N-95 designation from National Institute for Occupational Safety and Health (NIOSH).

- Do not walk between contaminated areas and other areas of the establishment without removing protective gloves, footwear and clothing.

- • Wash your hands thoroughly while working in the contaminated area.

FIRE

OPERATORS-DO THIS FIRST!

Uncontrolled fire: Evacuate facility! CALL 911!
Confined fire: Extinguish with on-site extinguisher.

- Close the facility, if even temporarily, until food safety can be assured.
- Reopen only after taking necessary recovery steps.

Determining the extent of damage from smoke contamination is difficult. Smoke can be carried inside refrigeration units by the circulating fans on the units even though the doors may not have been opened during the fire. Food display cases that are loosely covered or poorly sealed can easily be infiltrated by smoke.

When trying to determine the extent of damage, it is important to consider the type of packaging in which the food is stored. Smoke smell and taste lingers on packages and may have been absorbed by foods that may otherwise appear satisfactory. To examine distressed foods organoleptically, remove them to an area where the smoke odor of the fire is not present. You should also visually inspect for smoke damage. Smoke appears more clearly on flexible plastic surfaces (e.g., bread bags) than on other surfaces. Using a clean paper towel or tissue, you can wipe a package to detect traces of smoke/soot. Individually-wrapped candies, packaged nuts in the shell, etc. may be less susceptible to contamination, but items such as pasta, baked goods, unwrapped candies, and nuts must be closely scrutinized.

Charred goods or food products, especially when found in water-soaked containers, are rarely salvageable. Single-use items that are smoke affected must be discarded. Some food products may not show exterior signs of damage, but may have been exposed to excessive heat.

FOOD SAFETY FACTORS

Discard affected:

- Food in opened containers.
- Food in paper or cardboard containers.
- Disposable utensil or containers, or single-service items in opened sleeves or liners.
- Any food or disposable that shows water or heat damage.
- Food in screw-type lids.
- Refrigerated or frozen foods that have been above 41°F for more than 4 hours.
- Ice in ice bins.
- Cans that are dented or rusty.

HINTS FOR THE FACILITY

- Use a camera or camcorder to document discarded goods for insurance purposes.

WATER SERVICE DISRUPTION OR CONTAMINATION

OPERATORS-DO THIS FIRST!

CLOSE THE FACILITY AND CALL LOCAL HEALTH OR THE DEPARTMENT OF CONSUMER PROTECTION

Without adequate and potable hot and cold water you should not continue to operate.
(Document the time when a water service disruption occurs or contamination is suspected, then immediately notify the local water utility and environmental health department. Be prepared to provide information, if known, on the cause of the problem.)

Water service interruption

A broken main water line, malfunctioning well or worn-out water heater can each create unsafe conditions for food establishments. Without adequate clean water, employees cannot wash their hands, cook and prepare foods, and clean equipment appropriately. Restrooms and kitchens quickly become health hazards without running water.

Water service contamination

A contaminated water supply may contain chemicals, toxins, bacteria, viruses, parasites and other harmful microorganisms that cause human illnesses and can result in death. Safe water is essential to operate a safe food business.

FACILITIES ROAD TO RECOVERY

- A food establishment that is closed because of an interrupted water supply must not reopen until safe water service is restored.

READY TO REOPEN?

After safe water service has been restored:

Make sure equipment with water line connections (filters, post-mix beverage machines, spray misters, coffee/tea urns, ice machines, glass washers, dishwashers, etc.) is flushed, cleaned and sanitized according to manufacturers' instructions.

- Run water softeners through a regeneration cycle.
- Flush drinking fountains by running water continuously for at least five minutes.
- Private well water should be sampled and verified as potable before resuming operations

BIOLOGICAL TAMPERING OR TERRORISM

Biological tampering or terrorism involves the deliberate use of a biological agent to spread disease-producing microorganisms or toxins in food, water or the atmosphere. These agents can be powders, liquids or in other forms. A biological agent will almost never cause immediate symptoms, as it takes time for the biological agent to grow or cause its toxic effects. Botulinum and ricin are two examples of toxins that bioterrorists might choose to use.

Because deliberate contamination of the nation's food supply can happen anywhere along the food supply stream, food managers and workers play key roles in minimizing these potential threats.

OPERATORS-DO THIS FIRST!

- **Call your local health department or the Department of Consumer Protection at (860)713-6160**
- **A report can also be directed to the Department of Emergency Management and Homeland Security through the 24 hour tip line at 1-866-HLS-TIPS (1-866-457-8477).**

FOOD SAFETY FACTORS

Preparedness paves the way to prevention. Develop a good food security system!

- Eliminate unauthorized access where food is open, vulnerable and easily targeted.
- Control storage/access to toxic chemicals/cleaning supplies and ensure proper labeling.
- Control storage and handling of ingredients.
- Report all unusual activity to the authorities (unauthorized vehicles, people, theft, sabotage, vandalism).
- Make staff aware of the potential for intentional contamination of food and the importance of their role in keeping it safe.
- Use only known and appropriately licensed (approved) sources. Inspect delivery vehicles and supervise offloading.

FACILITIES ROAD TO RECOVERY

Clean-up after biological tampering will depend on the biological agent, its form (powder or liquid) and how it was spread (food, air or water) and is determined on a case-by-case basis.

- Keep foods in their original places and seek further guidance from law enforcement and health authorities.
- Follow authorities' instructions on how to safely dispose of items contaminated by biologic agents.

READY TO REOPEN?

Call local health or the Department of Consumer Protection to approve reopening.

HINTS FOR THE FACILITY

Early warning signs may help you recognize a threat:

- Are large numbers of employees or customers becoming ill?
- Do foods not look, feel or smell right?
- Have unauthorized people been caught doing suspicious things in food preparation areas?
- Have you seen unusual powders or liquids in shipments of food or delivery vehicles?

PEST CONTROL IN A DISASTER

THE PROBLEM

Pests often become a problem during other emergency events. Floods, storms, and other disasters can dislocate snakes, rodents, insects and other pests from their normal habitats. Standing water becomes a breeding site for insects and vermin (e.g., mosquitoes). Dead animals become food for other pests (e.g., rodents, flies). Sewage and flood contamination can lead to flies and rodents carrying diseases. Lack of garbage pickup can also provide food for insects, rodents and vermin. They can damage food, supplies and buildings, repel customers and cause food-borne illnesses.

HOW TO AVOID ATTRACTING PESTS

Remove sources of food and habitat, and clean and maintain the facility.

- Eliminate food sources inside the building (clean often, clean right away)
- Eliminate food sources outside the building (especially around dumpsters).
- Eliminate habitat inside the building (keep floors cleaned, items off the ground).
- Eliminate habitat outside the building (keep the grass mowed; remove leaves, nests, weeds and debris, especially that which is very are close to the building).
- Eliminate water sources around the building (ditches, pails, pools, cracks).
- Keep trash cans and dumpsters closed and keep the dumpster area clean.
- Remove old, rotting fruit and vegetables inside building to eliminate breeding sites.

HOW TO EXCLUDE PESTS

It's all about closing off every access point.

- Keep doors closed. Install door closers and bottom door sweeps.
- Keep dock doors closed and seal gaps around them.
- Keep windows closed and put screens on windows when possible.
- Seal all holes, cracks and crevices in the building walls, foundation and roof.
- Seal around pipes and install screens over ventilation pipes and ducts on roof.
- Train employees to be alert about these access points and to spot pests.
- Inspect all incoming shipments of goods and delivery vehicles for pests.
- If you find pests in food, reject the shipment or discard the food.
- If you find pests in your building, contact a licensed pest control company to eliminate them immediately; then clean the area.
- Rotate food products – first in, first out. This ensures good quality product and it helps in monitoring for the presence of pests.

FACILITIES ROAD TO RECOVERY

After a disaster is over, you will want to keep close watch over pest activity.

- Immediately after a disaster, pest activity often peaks, and then gradually diminishes.
- Even in non-disaster times, you will encounter some pest activity. It is good business to

always monitor pest activity in your operation to prevent problems.

- Do not rely solely on pesticides to solve your pest problems. Practice Integrated Pest Management and remember only licensed Pest Control Operators can apply restricted use pesticides.
- Prevention and early warnings are the keys to solving pest problems.

INTEGRATED PEST MANAGEMENT

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

HINTS FOR THE FACILITY

Implement a cleaning program

- Create a master cleaning schedule.
- What - Clean all surfaces, equipment, tools.
- Who - Assign each task.
- When - Daily during shift; at night at end of shift.
- How - Use specific cleaning instructions.
- Monitor cleaning - Is it getting done? Correctly?

Deny pests access

Pests come in through two main routes:

- Brought in with contaminated deliveries or delivery vehicles.
- Through openings in building, windows, doors.

Why pests should concern you

- Rodents chewing electrical wires set many fires.
- Flies spread dysentery, typhoid and cholera.
- Rodents spread salmonellosis and rat-bite fever.
- Mosquitoes spread malaria, encephalitis, yellow fever, West Nile virus and more.
- Mice, rats, insects use drain pipes like a highway going through a facility.
- Rodents burrow through degrading masonry.
- Rats can squeeze through a hole the size of a quarter; mice through one the size of a dime.

When you seal holes & cracks

- Make sure the seals are tight.
- Use durable materials to seal holes, such as concrete or sheet metal, as rodents will chew through soft materials. Steel wool can serve as a temporary seal.

- **Use pesticides in accordance with manufacturer instructions**
- Only licensed individuals should apply pesticides.
- Store and use only pesticides and chemicals that is absolutely necessary.

VEHICLE ACCIDENT

Most product damage occurs as a result of physical impact. However, a product can also be compromised if a vehicle's refrigeration unit is damaged. **The Power Outage principles on page four apply in this case.** Exposure to the weather may also adversely affect the product. Illegal, toxic items traveling with the product may rupture and increase the possibility of contamination. Fuel spillage is also a concern. People on-scene should be extremely cautious as traffic may be an extreme hazard in some situations and vehicles that have been involved in crashes and equipment on the scene may also be extremely dangerous.

FOOD SAFETY FACTORS

• Check meats and other perishable products first. Fast action is imperative if readily perishable food is to be salvaged.

• Temperature of the ambient air in the receiving trailer must be 41°F or less. Every effort should be made to maintain this temperature during loading operations.

• Any cans having critical or major defects shall be detained and destroyed.

• Containers of food in flexible plastic packages must be evaluated. Any containers having critical or major defects shall be detained and destroyed.

• Packaged cardboard containers damaged by moisture are not salvageable. Also, if the outer container is torn or cut the container should not be salvaged.

TIPS FOR TAKING TEMPERATURES

Record time and temperature upon arrival on scene and every two hours thereafter until food is declared unfit for human consumption or released to commerce.

- Temperatures should be taken and recorded when the truck is opened at a point nearest the entrance.
- Directly from the product/package. If the product/package is thick or large enough to allow for a variation in temperature, temperature should be taken from an area one-inch below the outside edge of the product/package.
- From the outer edge of the load then progressively toward the center of the load.
- Around any hole or break in the truck.
- From each different product in a mixed load.

CHEMICAL CONTAMINATION

Any release of a hazardous chemical that threatens public health, contaminates food, water or the environment is a chemical incident. Examples include a truck rollover and spill, a spill in a facility, or an intentional release.

OPERATORS-DO THIS FIRST!

If a chemical release occurs inside your building:

Stop operations immediately.
Limit exposure to people. Evacuate the chemical exposure area.
Call 911 to report the release.

Call local health or the Department of Consumer Protection for guidance and approval to reopen.

FOOD SAFETY FACTORS

The following barrier characteristics should be considered when deciding whether a food product or packaging should be salvaged or destroyed. Some of these products are more permeable than others.

- Water glaze or ice on food will absorb ammonia.
- Loose packed, individually quick-frozen foods are more susceptible to contamination than block frozen foods.
- Wrapping, waxed paper, waxed cardboard, and other types of paper products are extremely permeable.
- Plastic films (polyethylene, saran, cryovac, etc.) are less permeable.
- Brass, metal, and heavy aluminum foil or foil-lined packaging is often the best barrier.

HINTS FOR THE FACILITY

- Store and use only chemicals that are absolutely necessary.
- Use chemicals in accordance with manufacturers' instructions.
- Do not store chemicals where they can contaminate food equipment, utensils, linens and single service/single use articles.
- Only licensed individuals should apply pesticides.

GENERAL SALVAGE CONSIDERATIONS

Begin salvage operations as soon as possible. Delays in segregating good product from bad product often increase the amount of loss. Whenever possible all salvageable food should be separated at the site from food that is detained or condemned. Salvage operations must be monitored by a regulatory agency until all salvageable products have been secured and segregated for shipment to a salvage processing establishment.

Do not allow condemned goods to be taken for personal use by the salvager, employees, or anyone else.

When on-site cleanup is complete, the inspector will record the amount of salvageable product and the amount of product contaminated or destroyed. Off-loading of salvageable product to another vehicle must be supervised, sealed, and retained under detention. The replacement vehicle must remain sealed until the product arrives at the salvage processing facility.

Condemned product destruction should be witnessed and documented by a regulatory agency.

Some general salvage considerations:
If items are to be transported, salvageable frozen foods and other perishable items must be transported and stored in approved refrigerated units. It is the responsibility of the salvager to provide or arrange for these facilities before starting the salvage of perishable foods.

Salvageable fresh meats and poultry products should be referred to the U.S. Department of Agriculture for reworking or reprocessing at an approved facility.

Decisions to salvage or destroy shall be based on food protection policies and procedures without regard to economic concerns. It is the responsibility of regulatory staff assessing the condition of food involved in events to make decisions based on public health food protection policies and procedures. If possible, the inspector would supervise the entire reconditioning operation. If this is not possible, the reconditioner must contact the regulatory staff upon completion of the reconditioning operation in order to be granted an approval for the release of any good product and/or the destruction of the unacceptable product.

Safeguards must be assured to account for the quality of the products prior to, during, and after the reconditioning operation. Control procedures must ensure that all unwholesome products are properly segregated and destroyed, and reconditioned product meets acceptable safety and quality standards.

Food products intended for alternative uses must be denatured to render them unfit for food or animal feed. Continued control must be exercised until final disposition to prevent their reintroduction to the marketplace as food or feed. Firms are required to account for the amounts and types of product denature, to whom the product was sold and final use.

Acceptable reconditioning is dependent upon:

- Product condition;
- Container type;
- The product's intended use; and
- The kind and extent of contamination.

PRODUCT RECONDITIONING

PERISHIBLE PRODUCTS

Generally, the following types of products are not recommended for reconditioning:

- Milk products, because they are extremely perishable and highly susceptible to bacterial growth; any attempts at salvaging and reconditioning such products are very risky; careful laboratory testing must be conducted to determine the level of contamination.
- Fresh fruit and produce that have been contaminated by non-potable water, smoke, ammonia, or chemicals.

Under limited circumstances, use the following guidelines to determine whether a product is suitable for reconditioning:

- Products that have not been directly contaminated;
- Frozen products that have partially thawed and can be refrozen without posing a public health hazard; and
- Products that have been maintained at temperatures appropriate to their individual product requirements.

FOODS IN PLASTIC, PAPER, CARDBOARD, CLOTH, OR SIMILAR CONTAINERS

Products intended for use by infants, the elderly, or infirm, while possibly safe, should not be considered for reconditioning. **General guidelines for products packaged in these types of containers that are unsuitable for reconditioning include:**

- Product that has been contaminated;
- Package integrity that has been compromised and exposed to contamination; and
- Packaging that has been contaminated by solid, liquid, or gaseous elements.

SCREW-TOP, CRIMPED CAP, AND SIMILAR CLOSURES

Examine cans or jars for physical damage (rust, burst seams, holes, rips, etc.), and for visible adulteration from filth under cap crimps and cap lugs, oil or chemicals, and defaced labels. When a lid is removed, sediment or micro-contamination may be drawn into the container by internal vacuum. Discard any jars you open for examination. Visible contamination under lids may be photographed.

Food products in containers with screw caps, snap-lids, crimped caps (soda pop bottles), twist caps, flip tops, snap open, and similar-type closures should not be reconditioned if submerged in water or subjected to smoke contamination. Debris and contaminants in the water may be lodged under the cap lips, threads, lugs, crimps, and snap-rings, making them virtually impossible to detect and remove.

HERMETICALLY SEALED CANS

Products in hermetically-sealed cans that have been exposed to fire and smoke, but not excessive heat, may be cleaned and relabeled after being considered for reconditioning. Hermetically-sealed cans exposed to non-potable water may be reconditioned and relabeled under strict, controlled procedures. These procedures include:

- Removing all labels;
- Inspecting the cans for pinholes;
- Washing the containers using soap or detergent solution in potable water, brushing as necessary;
- Rinsing in potable water;
- Buffing the cans to remove rust (excluding heavily rusted cans);
- Disinfecting the can by immersion in a solution of sodium hypochlorite containing not less than 100 ppm available chlorine or other sanitizing agent;
- Thorough air drying; and
- Relabeling.

POROUS NON-FOOD ITEMS

Any porous items that are used with food or that come in contact with the mouth should be discarded. This includes:

- Baby bottle nipples
- Wooden bowls
- Disposable flatware and plastic utensils
- Paper, foam, or plastic dishware

REFERENCES

"A Pocket Guide to Can Defects," Association of Food and Drug Officials, 1987, "A Pocket Guide to Can Defects," Association of Food and Drug Officials, 1987, "A Pocket Guide to Can Defects," Association of Food and Drug Officials, 1987,

"Classification of Visible Can Defects (exterior)" AOAC/FDA (Association of Official Analytical Chemists/United States Food and Drug Administration) 1984. Association of Analytical Chemists, Arlington.

"Integrated Pest Management (IMP) Principles" Environmental Protection Agency, http://www.epa.gov/opp00001/factsheets/ipm.htm

"Emergency Handbook for Food Managers" Twin Cities Metro Advanced Practice Center, 2005, http://www.co.ramsey.mn.us/NR/rdonlyres/A274CAF1-D725-4EEE-A286-0641B464CB70/1762/Handbook_for_food_managers.pdf

"Guidelines for Evaluation and Disposition of Damaged Food Containers," National Food Processors Association, 1999, http://www.nfpa-food.org/upload/pdfs/Publications_G-H.pdf

"Protecting Against Food-borne Illnesses" National Sanitation Foundation, http://www.nsf.org/consumer/food_safety/fsafety_illness.asp

"Restaurants and Grocers Reopening After Hurricanes and Flooding" U.S. Food and Drug Administration, 2006, http://www.cfsan.fda.gov/~dms/fsdisas4.html

CONTACT INFORMATION

Connecticut Department of Consumer Protection (860) 713-6160

Dept of Emergency Management and Homeland Security Tip Line
1-866-HLS-TIPS (1-866-457-8477).

Local health directory –
http://www.ct.gov/dph/cwp/view.asp?a=3123&q=397740