Fact Sheet

EMERGENCY FOOD SAFETY – ENVIRONMENTAL HEALTH OFFICERS

Introduction

Food businesses need to be aware that different emergency situations can affect food safety in various ways, and Environmental Health Officers (EHOs) may be required to give advice based on the type of emergency.

An emergency situation can include:

- Power outage
- Flood
- Fire

It remains the responsibility of the business to ensure that all food sold after the emergency has not been compromised in any way. Penalties for breaches of the Food Act 2001 should be applied where a business has been found to compromise public health.

Worker health and safety

Do not enter a building that has been extensively damaged until it has been cleared by the appropriate Control Agency (if applicable), or by an appropriate assessor.

Priority activities

There are a number of specific tasks that EHOs could do in response to an incident that poses a threat to food safety:

- Provide advice to owners/managers of food establishments regarding general food safety issues, including salvaging and protecting perishable and shelf stable foods.
- Provide information to owners/managers of food establishments on sorting and proper disposal of foods, which may have been contaminated.
- Provide advice to mass feeding centres, if established, to ensure safe food handling practices and personal hygiene for workers and attendees (this may depend on local government policies).
- Provide information to the public addressing protection of potentially hazardous foods, perishable foods, and shelf stable foods, and advice on the sorting and disposal of food that may be contaminated.

Detailed information is contained in 'EMERGENCY MANAGEMENT FOOD SAFETY – FOOD BUSINESSES'

Contact SA Health (8226 7100) where further information is required for:

- Food safety issues
- Waste water issues
- Water quality issues
- Other public health issues

Government of South Australia
SA Health

Definitions

Potentially hazardous food means food that has to be kept at certain temperatures to minimise the growth of any pathogenic microorganisms that may be present in the food or to prevent the formation of toxins in the food.

Perishable food refers to foods that are subject to deterioration in quality or food safety when kept under normal storage conditions.

Examples include:

- Potentially hazardous foods (must be kept refrigerated and used within specified use by date)
- Uncut fruit and vegetables that can be stored unrefrigerated eg apples, bananas, potatoes etc
- Shell eggs (recommended below 14°C but best stored below 5°C)
- Low risk bakery products eg bread
- Some foods that require refrigerated storage eg margarine, some high sugar/acidic condiments.

Shelf stable food means a food that can be safely stored and sold at room temperature. Preservation methods used include canning, ultra-heat treatment, reduced water activity, increased acidity and some modified atmosphere packaging. These non-perishable products include canned and bottled foods, rice, pasta, flour, sugar, spices, oils, and foods processed in aseptic or retort packages and other products that do not require refrigeration until after opening.

Power outages

If the power supply is out for more than 4 hours, food in fridges will start to spoil, and pathogens will begin to grow once the temperature of the food rises above 5°C. A closed refrigerator should keep food below 5°C for 4 hours, so it is important that the door is kept closed as much as possible.

Steps that can be taken to help in deciding which foods can be kept and which need to be disposed of based on time/ temperature parameters include:

- Document the time the power went out
- Quickly move potentially hazardous food from the refrigerator to the freezer
- Note when the refrigerator/freezer doors were opened & closed: keeping the doors closed as much as possible keeps the air temperature colder for longer. A closed refrigerator should keep food below 5°C for 4 to 6 hours, and freezer can keep food cold up to 24 hours
- Meat, poultry and fish should be stored in the coldest part of the refrigerator or moved to the freezer & stored closely together to conserve temperature
- When the power comes back on, document the temperature of the food and the time
- Placing a thermometer (fixed or other) in refrigerators and freezers before a power outage situation will help the business be prepared for monitoring temperatures quickly.

Refer to Table: 'Keeping food safe during an emergency' for more detail, but as a quick guide for potentially hazardous foods that have been out of temperature control:

Cold food

Time - Less than 2 hours

If potentially hazardous food is above 5°C and the power has been off for less than 2 hours the food can be re-refrigerated or used immediately.

Time - between 2 – 4 hours

Potentially hazardous food above 5°C can be consumed immediately.

Time - More than 4 hours

If potentially hazardous food temperature is above 5°C and has been for more than 4 hours, some foods may be unsuitable to consume. This includes food in freezers that has defrosted and risen above 5°C.

Food in the freezer

Freezers will usually not defrost for at least 24 hours, provided the door has been kept shut. If frozen foods have thawed, some foods should not be refrozen but be kept below 5°C and eaten as soon as possible. Other foods may be refrozen, but will lose quality.

Hot food

Mid cooking

If the business was in the process of cooking when the power went out, that food will need to be disposed of after 2 hours if the power has not come back on.

If food was fully cooked at the time the power went out, follow the 2hour/4hour guide.

If the business has the capability of storing hot food to maintain ≥60°C, hot food may be kept longer than 2 hours.

If the business was hot holding food:

- If food can be maintained above 60°C for duration of the power outage, it will remain safe to eat
- Hot held food can be served for up to 4 hours after the temperature is below 60°C
- It must be discarded if below 60°C for more than 4 hours*
- If the food was below 60°C for less than 2 hours, it can be rapidly re-heated without interruption to 75°C (or equivalent), or chilled rapidly to below 5°C in 4 hours.

**NOTE: Cooking or reheating foods that have been out of temperature control longer than 4 hours will not eliminate the risk of food borne illness as some bacteria produce a toxin, which is not destroyed at the temperature used to cook or reheat food.*

Safe foods

Certain refrigerated perishable foods can still be considered safe even if they have been above 5°C for longer than four hours. Refer to table ‘Keeping food safe during an emergency’ for more detail.

Shelf stable foods are not affected by power outages.

Flood and fire emergency response

Objectives

There are a number of issues for EHOs to be aware of in response to the disasters such as flood and fire (depending on the scale of the emergency):

- Availability of potable water
- Contaminated food
- Information required by food businesses about safe food handling, food safety, disposal and cleaning and sanitation practices.

Priority activities

The requirement for inspections or site visits will be at the discretion of local government; however there are a number of tasks that EHOs could do in response to a fire/flood that poses a threat to the public's health:

- Determine affected area and scale of issue
- Assess status of affected establishments and institutions
- Work with and provide advice to affected establishments and institutions
- provide fact sheets or advice to affected establishments and institutions to deal with assessing food safety risks, food disposal requirements, cleaning and sanitising.

It is the responsibility of the food business that has been damaged by flood or fire to assess its own food safety risks, however local government may be able to help with this assessment.

Food safety after a flood

Floods can cause a number of public health and safety issues as it is very common for flood water to mix with overflowing sewers or chemicals. In terms of an environmental health response, floods cause six major problems in their aftermath: food borne illness, water-borne illness, vector-borne illness, electricity hazards, hazardous chemical hazards, and complications due to mould. Environmental health officers should be aware of all these risks; however the following section relates to food safety only.

Refer to 'FOOD SAFETY IN AN EMERGENCY – FOOD BUSINESSES (Flood)' for more details

Food issues

The organisms present in floodwater may invade food, including packaged foods; therefore the business/person will need to discard certain food and packaging.

Discard:

- Any food exposed to flood waters within the premises. This includes food stored in sealed cans or bottles, packaged goods and unsealed containers.
- All foods in refrigerators or freezers that have come into contact with flood waters as the seals are not watertight.
- All packaging that has come into contact with the flood water or is punctured, torn, swollen, rusted or had its security seal removed or damaged.
- All items that have been affected by vermin, insects or any other pests.

The business must ensure that these products do not reappear as damaged or salvaged merchandise for human consumption.

NOTE: Undamaged, commercially prepared foods in all-metal cans or retort pouches can be saved if they have not come into contact with flood water or debris ie above the highest point of the flood mark and not damaged in any other way.

Water issues

- Contaminated water cannot be used to wash dishes, wash and prepare food, wash hands, make ice, or make baby formula.

Refrigerated and/or frozen Foods

Typically, electricity will go out during a flood. If the refrigerator or freezer has not been exposed to flood waters, food may still need to be discarded.

Refer to 'Food Safety in a Power Outage' section.

Building and equipment integrity

It is the businesses responsibility to ensure the structure of the building and equipment has been assessed to determine whether it will meet the requirements of the Food Act 2001. Areas that must be considered

- The impact of flood waters on the buildings structure. Food storage areas need to be protected from outside elements such as rain, water, dust, pests, animals and any other condition that may adversely affect the safety of the product.

Have damage assessed by an appropriately qualified person and obtain a report (electrical, structural), considering:

  - Cavities behind walls, kick boards and other structural voids that have been inundated by the flood must be drained and cleaned. In the case of wall cavities, holes drilled near the base to check for water inundation, can indicate whether further action is required.
  - The integrity of laminated surfaces must be checked. Water permeation of the timber may cause buckling or separation, which means the laminated material, cannot be disinfected properly.
  - Wall cavities of cool/freezer rooms must also be checked for water inundation. Holes drilled into the wall, can indicate the extent of water inundation. Approval for reuse may be given if certification is granted by a qualified refrigeration contractor that the integrity of the structure is sound and the walls are fully sealed.
  - The integrity of equipment such as fridges, ovens etc. must be checked to determine whether it is suitable for the safe storage or production of food. To ensure safe operation, a qualified electrical contractor should check all electrical equipment that has been inundated by flooding.
  - 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.
  - Special attention should be given to lighting, drainage areas, ventilation vents, corners, cracks and crevices, door handles and door gaskets.

- Replace or repair damaged surfaces (floors, walls and ceilings) as per recommendations.
- Scrub and sanitise all floors, walls and ceilings with a 100 to 200ppm chlorine solution or designated sanitiser.
- Water damaged ventilation systems that cannot be thoroughly cleaned and sanitised should be removed and replaced. In all cases, replace all ventilation air filters.

Cleaning and sanitising

Refer to the Food Business fact sheet for details.

The contact time recommended after a flood event is higher than the standard sanitising procedure as the bacterial load from the flood water contamination will be higher than what would occur during daily business operations.

Different sanitiser strengths are recommended for food contact surfaces, equipment and floors walls and ceilings because of the different hazards presented within the facility.

An excellent resource for calculating sanitiser dilution rates can be found here:

http://www.publichealthontario.ca/en/ServicesAndTools/Tools/Pages/Dilution-Calculator.aspx

Note: mould may become an issue very quickly after a flood and professional mould removalist advice may be required.

Food safety after a fire

Fires are serious threats to life and property due to the smoke, extreme heat and chemicals they can produce. Food may be contaminated by smoke, fumes, toxic gases as well as water and the chemicals used to fight the fire. Food may also be damaged from the heat of the fire.

It is the responsibility of the food business that has been damaged by a fire to assess its own food safety risks; however Local Government may be able to help with this assessment.

The food business may need to close, depending on the severity of the fire e.g.

- Confined fire that can be put out with a fire extinguisher – the location of the fire will dictate any further action
- Uncontrolled fire

Refer to 'FOOD SAFETY IN AN EMERGENCY – FOOD BUSINESSES (Fire)' for more details

Food is not safe after being in a fire or after the extinguishing system has discharged as:

- Heat can cause jars and cans to split and crack allowing contaminants to enter.
- Even if cans and jars appear undamaged, heat can cause the food to spoil.
- Smoke and chemicals from the fire and extinguishing system can penetrate plastic packaging, plastic wraps of all kinds, and get under bottle caps or screw tops.
- Firefighting chemicals can taint food and beverages, and packaged products.

Food and beverages that were in or near a fire that must be disposed of:

- All foods and beverages stored in screw top jars or bottles, permeable packaging such as cardboard, foil, paper or plastic wrap.
- All unwrapped fruits and vegetables.
- Foods stored outside the refrigerator and which were exposed to smoke and fumes.
- Foods from the refrigerator or freezer if there are any signs of smoke damage as refrigerators or freezers seals are not airtight.
- Ice, in both serving bins and machines.
- All foods that were touched by firefighting chemicals. This will depend on the situation as retardants used to fight fires should not present a risk to health, but may affect the taste. Where retardant has been used and food has been compromised with smoke and/or fumes, dispose of it.
- All disposable single-service utensils (plastic plates, cups etc.) that were exposed to smoke and chemicals.

Frozen and/or refrigerated foods

Typically, electricity will go out during a fire. If the refrigerator or freezer has not been exposed to the fire or firefighting chemicals, some food may be salvaged:

Refer to 'Food Safety in a Power Outage' section.

Cleaning and sanitising

Refer to the Food Business fact sheet for details.

Note there is a difference between sanitiser dosage rates for flood and fire because of the hazards associated with those emergencies.

For more information

SA Health

Health Protection and Licensing Services

Food and Controlled Drugs

Telephone: 82267100

www.sahealth.sa.gov.au