

Disaster Relief

Preparing Food during a Power Failure

During a power failure, you will have to change cooking and eating habits. You may have no heat, no refrigeration, and limited water. Health risks from contaminated or spoiled food may increase. When preparing food during a power outage, follow these guidelines.

Save Fuel

- Consider the amount of cooking time needed for particular foods. If you have limited heat for cooking, choose foods that cook quickly. Prepare casseroles and one-dish meals, or serve no-cook foods.
- Here are some cooking choices:
Fireplace – Many foods can be skewered, grilled, or wrapped in foil and cooked in the fireplace. Electric utensils – If gas is cut off but you still have electricity, use electric skillets, hot plates, or coffee makers to heat food.
Candle warmers – You can use devices with candle warmers, such as fondue pots, if no other heat sources are available. Camp stoves and charcoal burners – You can use these outside your home. Never use fuel-burning camp stoves or charcoal burners inside your home, even in a fireplace. Fumes from these stoves can be deadly.
- Do not cook frozen foods unless you have enough heat for cooking. Some frozen foods require much more cooking time and heat than canned goods. Also, if power is off, it is best to leave the freezer door closed to keep food from thawing.
- You can eat commercial canned foods straight from the can. Do not use home canned vegetables unless you can boil them for 10 minutes before eating.

Conserve Water

- Save liquids from canned vegetables. Use these liquids for water in cooked dishes.
- Drain and save juices from canned fruits. Use the juices for water in salads and drinks.

Observe Health Precautions

- Boil all water you use in food preparation for at least 10 minutes.
- If you are without refrigeration, open only enough food containers for one meal. Some foods can be kept a short time without refrigeration. If available, packaged survival or camping foods are safe. Do not serve foods that spoil easily, such as ground meats, creamed foods, hash, custards, and meat pies. These are sources of food-borne illness.
- If necessary, substitute canned and powdered milk for fresh milk. Canned milk keeps safely for many hours after you open the can. If you are using canned milk to feed a baby, however, open a fresh can for each bottle. Use only boiled or disinfected water to mix powdered milk. Use reconstituted milk immediately after it is mixed if you have no refrigeration. If you don't have safe water or water disinfectants, use canned or bottled fruit juices instead of water.
- Prepare and eat foods in their original containers, if possible. This helps, if dishwashing facilities are limited.

Safety of Frozen Foods after a Power Failure or Flood

When anticipating a power failure (as before a flood warning), set the refrigerator

and freezer temperature to the coldest setting to build up a cooling reserve. If floodwater enters your freezer or refrigerator, dispose of all food not sealed in metal airtight cans or glass jars.

Keep Freezer Closed!

With the freezer closed, foods usually stay frozen at least a day, or perhaps two or three days, depending on insulation. Food in well-fitted, well-insulated 4-cubic-foot home freezers will not begin to spoil in fewer than three days; in 12- to 36-cubic-foot freezers, food will not begin to spoil in fewer than five days and may be all right seven or eight days if the food is very cold. Open the freezer only to take out the food for moving to a locker plant or to add dry ice.

Thawing Rate

With the door closed, food in most freezers will stay below 40 °F up to three days, even in summer.

Thawing rate depends on –

- How much food is in the freezer. A full freezer stays cold longer than a partly-full one.
- The kind of food. A freezer filled with meat stays cold longer than a freezer filled with baked goods.
- The temperature of the food. The colder the food, the longer it will stay frozen.
- The freezer. A well-insulated freezer keeps food frozen longer than one with little insulation.
- Size of freezer. The larger the freezer, the longer food stays frozen. NOTE: Do not put hot foods in the freezer, since this will raise the temperature. Keep hot foods covered, and discard if not eaten within 2 hours. Keep meat above 140 °F.

Emergency Measures

- Keep the door closed.
- If possible, move food to a locker plant. Call the locker plant to see if it is operating and if so, whether it has room for your food. If space is available, wrap the food in plenty of newspapers and blankets or use insulated containers, such as camping coolers. Then rush the food to the locker plant. It is best to arrange well in advance with your local locker plant to take care of food in an emergency.
- If you can't take food to a locker plant, leave it in your freezer and cover the freezer with blankets, quilts, crumpled newspaper, or excelsior. Do not cover air vent openings.
- Use dry ice if it is available. Wear gloves to handle dry ice, and proceed as recommended.
- Can the food if it is possible to do so under sanitary conditions and with proper equipment.

When Food Has Thawed

Partial thawing and refreezing reduces the quality of foods, particularly fruits, vegetables, and prepared foods. Red meats are affected less than many other foods. You may safely refreeze foods if they still contain ice crystals or if they have been kept at 40 °F or below for no more than 2 days. If the temperature is above 50 °F, throw food away. Foods that cannot be refrozen but are safe may be canned immediately.

Treat thawed foods as follows:

- Fruits – Refreeze fruits if they taste and smell good. Fruit that is beginning to ferment is safe to eat but will have an off flavor. You can use such fruit in cooking.
- Frozen dinners – Do not refreeze frozen dinners that have thawed.
- Vegetables – Do not refreeze thawed vegetables. Bacteria in these foods multiply rapidly. Spoilage may begin before the food smells bad. Such spoilage may be very toxic. Refreeze vegetables only there are still ice crystals throughout the package. If you question the condition of any vegetables, discard them.
- Meat and poultry – Meat and poultry become unsafe to eat when they start to spoil. If any package of meat has a bad or questionable odor or if the freezer temperature has reached 40 °F or higher for 2 hours or longer, don't use. It may be dangerous! Discard all stuffed poultry. Immediately cook thawed but unspoiled meat or poultry. You can refreeze cooked meat.
- Fish and shellfish – These are extremely perishable. Do not refreeze unless there are ice crystals throughout the package. Seafood may be spoiled even if it doesn't smell bad.
- Ice cream – Do not refreeze melted ice cream. Discard or eat it in the liquid form before off flavor develops.
- Cook thawed frozen foods and frozen dinners immediately if they are still cold. Do not refreeze. If any foods have bad or questionable smell, do not eat.

Using Dry Ice during a Power Failure

If it seems likely your freezer will not be operating properly within one or two days, dry ice may help keep some frozen food from spoiling. The more dry ice you use, the longer the food will stay frozen. But dry ice is very expensive and is not easy to get in some areas. If a flood is predicted and you decide to use dry ice, find a source ahead of time and get it quickly. You may be able to buy dry ice from a local dairy or cold-storage warehouse, or your power company may be able to direct you to a source of dry ice. Follow these guidelines for using and handling dry ice:

- Wear gloves when handling dry ice. Do not touch it with your bare hands; it causes severe frostbite and tissue damage.
- Allow 2 to 3 pounds of ice per cubic foot of freezer space. You will need more for an upright freezer, because you will need to put ice on each shelf.
- Move any food from the freezing compartment to the storage compartment of the freezer. Place boards or heavy cardboard on top of packages. Place dry ice on top of boards. In an upright freezer, place ice on each shelf.
- You may cover the freezer with blankets, quilts, or some other covering, but do not lock it or cover air vent openings. It will help to put crumpled newspaper or excelsior between the cabinet and the blankets. Gas given off by the dry ice needs a place to escape. Open basement or room windows or doors to vent out gas from dry ice.

Safety of Refrigerated Food after a Power Failure

- Most chopped meats, poultry, and seafood sandwich fillings should not be left unrefrigerated longer than 2 hours. If you have to leave your home without an ice chest containing ice, take cold salad ingredients to mix and eat as soon as you arrive. If any salad is left, throw it away.
- You can extend your food supply by cooking all unspoiled meat immediately. Cooked meat needs to be kept above 140 °F if it cannot be cooled below 45 °F within two hours. Large, solid, unboned pieces of fresh beef or lamb such as rump roast or leg of lamb are least susceptible to quick spoilage.
- Uncured sausage is easily contaminated because

it is free of preservatives. Keep frozen until you must leave, and then cook before it thaws.

- Raw chopped meats, like hamburger, spoil quickly. Pork, fish, and poultry spoil quickly. Dispose of them if they have been in the refrigerator without power for 12 hours or more. Do not trust your sense of smell.
- Hard cheese usually keeps well at room temperatures. Other cheeses, such as cream cheese, opened containers of cheese spreads, and cottage cheese spoil quickly. Throw out when off flavor develops. If surface mold develops on blocks of cheese, slice 1 inch below the surface and discard.
- Milk spoils quickly without refrigeration. Throw out spoiled milk. You can use sour milk in baking.
- Custard, gravies, creamed foods, chopped meats, poultry, and seafood sandwich fillings spoil quickly when unrefrigerated and provide ideal growing places for organisms causing foodborne illness. Dispose of these foods if they have warmed to room temperatures. Spoilage is difficult to detect, since there may be no bad smell or taste.
- Commercially-made baked goods with cream fillings are not safe to take when evacuating unless you have a cold place to keep them. It is best to leave cream pies and all foods containing high protein and moisture at home unless you store them in a cooler with ice.

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