

Radiological Emergency Information

For Farmers and Food Processors
In the State of West Virginia

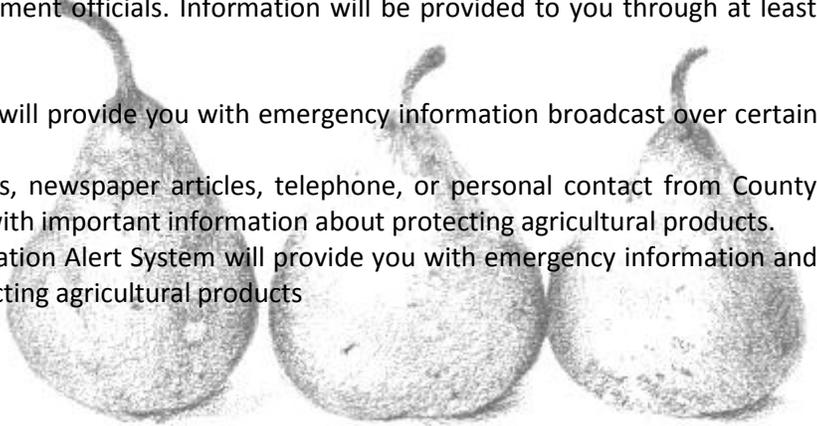
Please read this pamphlet thoroughly.

This pamphlet contains important emergency information for farmers and food processors located within a 50-mile radius of a commercial nuclear power plant. Most of the northern panhandle of the State of West Virginia lay within a 50-mile radius of Beaver Valley Power Station, a two-unit nuclear power plant in Shippingport, Pennsylvania. It tells you how you will be notified and what procedures you should follow in the event of an emergency at the power plant. If an emergency results in a release of radioactive materials to the environment, you could be directed to take action to protect your family, farm animals, and agricultural products.

Sources of Emergency Information

In the event of a radiological incident at Beaver Valley Power Station, specific information and instructions will be issued to you by local and state government officials. Information will be provided to you through at least one of the sources listed below:

- The Emergency Alert System (EAS) will provide you with emergency information broadcast over certain EAS radio and television stations.
- Local radio or television broadcasts, newspaper articles, telephone, or personal contact from County Extension Offices will provide you with important information about protecting agricultural products.
- The Reverse 911 Telephone Notification Alert System will provide you with emergency information and important information about protecting agricultural products



Local Emergency Alert Stations

Radio

WWVA 1170 AM	WKWK 97.3 FM
WEIR 1430 AM	WUKL 105.5 FM
WOMP 1290 AM	WYJK 100.5 FM
WBBD 1400 AM	WEGW 107.5 FM
WOVK 98.7 FM	WVNP 89.9 FM
WVKF 95.7 FM	

Television

WTRF Channel 7	WTOV Channel 9
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Emergency Planning Zones

There are two types of emergency planning zones (EPZs):

- The *Plume Exposure Pathway EPZ* is a 10-mile radius around Beaver Valley Power Station where plans are in place for dealing with direct exposure to radioactive material during an emergency. The northeastern parts of Hancock County fall into the 10-mile EPZ for Beaver Valley Power Station.
- The *Ingestion Exposure Pathway EPZ* is a 50-mile radius around Beaver Valley Power Station where emergency plans are in place to deal with the potential for indirect exposure to radiation caused by eating food or drinking water, milk, or other liquids that are contaminated by radioactive material released during an emergency. All of Hancock, Brooke, and Ohio Counties fall into the 50-mile EPZ for Beaver Valley as well as the northern half of Marshall County.

Protective Actions

The safety of the food and water supply is the focus of the emergency plans for the 50-mile EPZ. If radioactive material was released during an accident, both water and land could become contaminated. Eating contaminated foods and drinking contaminated water or milk could have a harmful, long-term effect on your health.

Agricultural and food processing communities will receive specific instructions from state and county government emergency response organizations describing what actions to take if a radiological emergency occurs. The decision to recommend protective actions will be based on emergency conditions at the power plant and other information.

There are two types of protective actions that will help to prevent or lessen the possibility that people or animals will eat or drink contaminated food or water:

- *Preventative Protective Actions* are measures taken to prevent or minimize contamination of food products. You may be told to put your animals on protected or stored feed and water. Grain stored in a permanent bin, hay in a barn or ensilage in a covered silo can be considered protected. A haystack in an open field can be protected with a tarpaulin or similar covering, but this must be done before a radioactive release occurs. Large rolled bales of hay, unprotected by plastic sleeves or covers, that are stored outside should not be used unless absolutely necessary. Even then, they should only be used after the outer layers have been removed and discarded. Water from a covered or deep well, tank, cistern, or freely running spring should be safe for livestock. Water in an open pond could be contaminated and should be tested before use.
- *Emergency Protective Actions* are measures taken to isolate or contain food that has already been contaminated and prevent its release into commerce. The following are examples of protective actions that may be recommended if a release of radioactive materials occurs and contamination of agricultural products is suspected or verified by State officials:
 - When you go outside, wear clothing that covers all portions of the body. Remove outer clothing before going indoors
 - Wash hands thoroughly before preparing or consuming food.
 - Delay the slaughter of animals until directed by appropriate health or agricultural officials.
 - Do not use fresh milk, garden vegetables, or eggs from within the Ingestion Pathway EPZ until directed by appropriate health or agricultural officials.
 - Do not engage in any dust producing activities such as cultivating, baling, or harvesting.
 - Do not process or distribute agricultural products until they have been sampled by state officials and found to be free of contamination.
 - Fish and game should not be taken for food until directed by appropriate health or agricultural officials.

Specific instructions will depend on where your farm or facility is located in respect to Beaver Valley Power Plant and existing weather conditions.

Protective Actions for the Food Supply

Here are some examples of emergency actions and information that may be issued to the agricultural community by state government officials. Protective action recommendations specific to your area will be issued by officials in the event of an actual emergency.

Milk

Remove all dairy animals from pasture, shelter them if possible, and provide them with protected feed and water. It is more important to protect the animal feed and water than to protect the animal itself. If necessary, put the feed in the barn and animals in the barnyard. State officials may come to your farm to take milk, feed, and water samples for laboratory analysis. If dairy products are found to be contaminated, you may be told to withhold your milk and milk products from the market. State and county officials will recommend specific methods to deal with this problem.

Fruits and Vegetables

Wash, scrub, peel, or shell locally grown fruits and vegetables, including roots and tubers, to remove surface contamination. If you are told it is safe to do so, some fruits or vegetables can be preserved by canning, freezing, or dehydrations and stored for later use.

Meat and Meat Products

Following a release of radioactive material, you may be advised to place meat animals on protected feed and water and, if possible, provide them with shelter. If livestock consume contaminated feed and water, some of the contamination will be absorbed into their bodies and could enter the human food supply through meat and meat products.

Poultry and Poultry Products

Poultry raised outdoors, especially those kept for egg production, should be tested by state officials. Poultry raised indoors and given protected feed and water are not likely to be affected. If contamination is suspected or verified, state officials may recommend that poultry and eggs not be eaten.

Fish and Aquatic Life

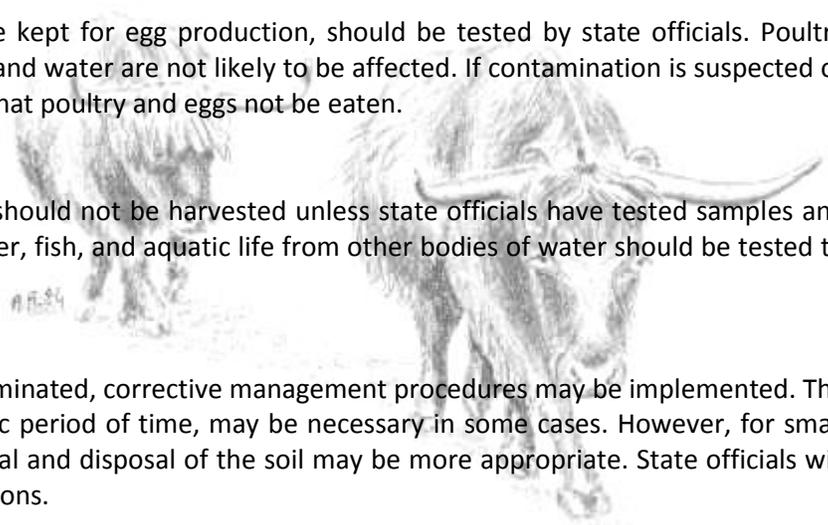
Fish and other aquatics raised in ponds should not be harvested unless state officials have tested samples and found that they are safe. Samples of water, fish, and aquatic life from other bodies of water should be tested to ensure that they are safe.

Soils

If state officials find that the soil is contaminated, corrective management procedures may be implemented. The nonuse of the land or idling for a specific period of time, may be necessary in some cases. However, for small spots of highly contaminated soil, removal and disposal of the soil may be more appropriate. State officials will direct the community on appropriate actions.

Grains

If grains are permitted to grow to maturity, most contamination will probably be removed by the wind and rain. Laboratory tests will determine if the grain is safe to use. When harvested, contaminated and uncontaminated grains should be stored separately to prevent cross-contamination.



Water

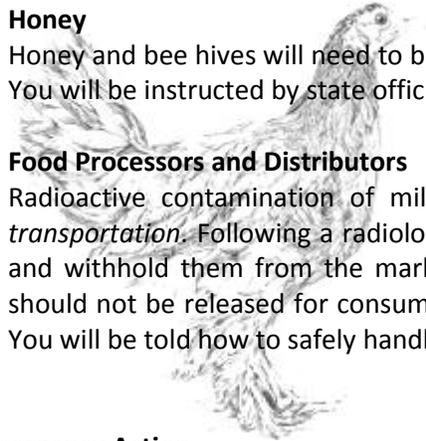
Open sources of water should be protected. Cover open rain barrels and tanks to prevent contamination. Do not collect rainfall from the roof of a building for use. Covered wells and other covered underground sources of water probably will not become contaminated. Radiation contaminants deposited on the ground will travel slowly, unless soil is sandy. It is unlikely that underground water supplies will be affected. Filler pipe should be disconnected from storage containers that are supplied by runoff from roofs or other surface drain fields. Close water intake valves from any contaminated water sources to prevent the use of contaminated water. When in doubt, do not use any water source until laboratory tests are completed and verify the source to be safe.

Honey

Honey and bee hives will need to be tested by state officials if radioactive contamination is detected in the area. You will be instructed by state officials on how to handle the hives and honey.

Food Processors and Distributors

Radioactive contamination of milk or food products in an affected area can occur *during processing or transportation*. Following a radiological emergency, state officials may restrict the movement of food products and withhold them from the market if they are suspected or found to have contamination. These products should not be released for consumption, until they are deemed safe or a decision is made to dispose of them. You will be told how to safely handle and dispose of contaminated food.



Post Emergency Action

If you have been evacuated from your area, you may be allowed to return temporarily to your farm when conditions permit. State or county officials will advise you through the Emergency Alert System (EAS) or other official channels if a decision to permit reentry is made. You will receive specific instructions on routes to use and safety precautions to take. Reentry will allow you to perform such vital activities as milking, watering, and feeding farm animals.

Following an emergency, state officials will identify the types and levels of contamination. They may need to take samples of air, water, soil, crops, and animal products from your farm or business. They will provide you with instructions and advise in decontamination of animals, food, and property if such actions are necessary. Contaminated food will be isolated to prevent its introduction into the market. State officials will decide whether condemnation and disposal are appropriate.

Radiation and Our Environment

Radiation and some radioactive materials are a natural part of our environment. They are in the air we breathe, in the food we eat, in the soil, in our homes, and even in our bodies. The level of radiation naturally existing in our environment is called “background radiation.” It may vary greatly from one location to another and depends on factors such as solar radiation, elevations, soil composition, and the presence of radon gases in soil and building materials. We are exposed to radiation from other sources every day, such as televisions and X-ray machines.

The effect of radiation on people depends on the amount and duration of exposure, how much of the body is exposed, how much radioactive material stays in the body, and the general health and age of the person. The effects of radiation can be decreased by reducing the exposure time and increasing the distance from the source of radiation.

Effects of Contamination of Human Food and Water Supplies

The amount of radioactive material released into the atmosphere, the duration of the release, and weather conditions, all can affect the accident’s impact on people, animals, crops, land, and water near the site of the emergency. An initial concern would be the condition of fresh milk from dairy animals grazing on pasture and drinking open sources of water. Testing may be performed at the farm, the transfer station, or the processing plant. If fresh milk and processed milk products are shown to be contaminated, state officials will decide whether to dispose of them or to hold them until safe for consumption.

Another concern would be the possible contamination of vegetables, grains, fruits, and nuts. The severity would depend on the time of year the emergency occurred. The time just before or during harvest is the most critical period. Crops may be sampled and analyzed by state officials to determine if they are safe to eat.

An additional concern would be the possible impact of the contamination on livestock and poultry. Pasture, feed, and water sources, as well as meat and poultry products, may be sampled and analyzed to determine if the meat and poultry products are safe to eat.

Contamination of drinking water supplies is not likely to be a problem. If it occurs, it probably will affect only surface water supplies and not ground wells or underground water sources. The safety of water would be determined by sampling public and private sources. If land becomes contaminated, proper soil management techniques can reduce contamination of crops grown on the land. The procedures to be used would depend on the severity of contamination and specific crops to be grown.

A Summary

While it is unlikely that a serious radiological emergency will occur, it is important to be prepared for such an event. If a radiological emergency occurs in your area, you may be alerted by the sounding of a siren, an emergency vehicle equipped with a loudspeaker, or other means. You should take the following actions:

- Turn on your radio or television and tune to a station that carries Emergency Alert System (EAS) information.
- Follow instructions from state and local officials and complete protective actions as directed.
- If you live within the 10-mile Plume Exposure Pathway Emergency Planning Zone you may be advised to take shelter (go inside) or evacuate. State officials may advise the general population to ingest potassium iodide (KI)

Recommended Water and Feed Requirements for Animals

Animals	Water/Day	Feed/Day
Dairy Cows		
Milk Cows	5-10 gallons	20-30 pounds hay and grain
Dry Cows	5-10 gallons	20 pounds hay
Weaning Cows	6 gallons summer/3 gallons winter	8-12 pounds hay
Cow (Pregnant)	7 gallons summer/6 gallons winter	10-15 pounds hay
Cow with Calf	9 gallons summer/8 gallons winter	12-18 pounds hay
Calf (400 Pounds)	6 gallons summer/4 gallons winter	8-12 pounds hay
Swine		
Brood Sow	4 gallons summer with litter/3 gallons winter	8 pounds grain
Brood Sow (Pregnant)	1-2 gallons summer/1 gallon winter	2 pounds grain
150 Pound Gilt or Board	1 gallon	3 pounds grain
Sheep		
Ewe with Lamb	4 quarts	5 pounds hay
Dry Ewe	3 quarts	3 pounds hay
Weaning Lamb	2 quarts	3 pounds hay
Poultry		
Layers	5 gallons/100 birds	17 pounds/100 birds
Broilers	5 gallons/100 birds	10 pounds/100 birds
Turkeys	12 gallons/100 birds	40 pounds/100 birds

Emergency Phone Numbers for More Information

Emergency Management Agencies

Hancock County Office of Emergency Management	304-564-4040
Brooke County Emergency Management Agency	304-737-5002
Wheeling-Ohio County Emergency Management Agency	304-234-3756
Marshall County Office of Emergency Management	304-843-1130
West Virginia Division of Homeland Security and Emergency Management	304-558-5380

WVU Extension County Offices

WVU Hancock County Extension Office	304-564-3805
WVU Brooke County Extension Office	304-737-3666
WVU Ohio County Extension Office	304-234-3673
WVU Marshall County Extension Office	304-843-1170

This pamphlet prepared in conjunction with the West Virginia Division of Homeland Security, Hancock County Office of Emergency Management, and WVU Ohio County Extension Office. Please retain for use in the event of an actual emergency.



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