



Radiological Emergency Information

*for Farmers,
Food Processors
and Distributors*



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This publication was prepared by:

Washington State Department of Agriculture
Emergency Management Program
PO Box 42560
Olympia, WA 98504-2560 (360) 902-2055

Prepared in cooperation with:

Washington Military Department
Emergency Management Division Camp Murray,
Building 20
Tacoma, WA 98430-5122 (800) 562-6108

and

Washington State Department of Health
Division of Radiation Protection
Post Office Box 47827
Olympia, WA 98504-7827 (360) 236-3210

Introduction

Nuclear power facilities are part of energy production in Washington State. A radiological emergency at the Columbia Generating Station (CGS) commercial power plant or the U.S. Department of Energy facilities on the Hanford Site near Richland could impact Washington State residents in surrounding counties. While it is unlikely that an emergency will occur, it is important to be prepared.

This guide has been written to provide information about radiation emergencies for farmers who raise animals or grow crops for food, as well as for food processors and distributors, especially for those located within 50 miles of a nuclear power plant. This booklet describes some actions that may be recommended in a radiological event to protect farmers, their animals, and crops and to ensure food safety.

We recommend that anyone who grows, produces, processes, or transports food and agricultural products study this booklet and keep it with your emergency preparedness kit in case of the unlikely event of release of radiological material in your area.

Why protective measures may be needed

The release of radioactive materials into the environment can pose a threat to the safety of the food supply as well as our agricultural community. The deposition of radioactive materials could contaminate crops, livestock, uncovered water supplies, and land. When the level of contamination exceeds safe levels, the food is considered “adulterated.” Eating adulterated foods and drinking adulterated milk or water could have harmful, long-term health effects.

Should radioactive materials be released to the environment, local, state, and federal officials will advise you of steps you can take to provide additional protection for your family, employees, animals, and farm or garden products. Recommended actions to protect food from contamination and prevent the consumption of adulterated food, milk, and water are based on a wide range of available information, including the specific type of radiological emergency, weather conditions, and other factors.

What is a radiological emergency?

A radiological emergency is an event involving the actual or potential release of radioactive material into the environment. Radiation has the potential to affect livestock health and whether farm products can be sold. Many radiological emergencies involving nuclear facilities develop over several hours to several days, providing time for protective actions to be implemented before a release occurs. If a release does occur, radioactive material may be carried by the wind as fine particles (like fine dust) that can settle on crops, pasture, feed, water, and other outdoor surfaces.

The best way to protect yourself, your animals, and your agricultural products is to reduce contact with radioactive material. Radioactive material can affect people and agriculture through:

- Radioactive particles settling on skin, clothing, animals, crops, feed, equipment, or other outdoor surfaces
- Breathing airborne radioactive particles
- Eating or drinking contaminated food or water

In Washington state, the Department of Health is the state's radiation protection authority. During a radiological emergency, the Department of Health determines whether radioactive contamination is present in air, soil, water, crops, dairy, and other agricultural products.

Washington State Department of Agriculture serves as a link between Washington's agricultural community and the agencies responding to the emergency by sharing timely information, supporting producers, and helping protect public health and the state's agricultural economy.

A collaborative team of local and state agencies will establish protective measures to help prevent contaminated food and agricultural products from reaching consumers. Based on these recommendations, temporary restrictions may be put in place to prevent potentially contaminated products from entering the marketplace until they are determined to be safe.

Reliable sources of information

During a radiological emergency, several methods will be used to warn the public. Local emergency response officials will provide instructions and emergency-related information over designated radio and television stations.

People living or working within 10 miles of a nuclear facility will also be notified by warning sirens, emergency alert messages over select radio stations (following siren activation), direct telephone notification or Tone Alert provided for limited use in schools and selected residences with specific notification needs.

News media

Local emergency response officials and state agencies, including Washington Dept of Health and Washington State Department of Agriculture will provide information to the news media. These reports will appear on radio and television as well as in newspapers and other online news media outlets.

Social media

Information about an emergency is frequently posted through social media. Be sure to follow and share information only from official sources: county emergency management officials, Energy Northwest, the Washington State Department of Agriculture, the Washington State Emergency Management Division, the Washington State Department of Health, and the Office of Governor.

Please DO NOT share information from unofficial sources as this often contributes to the spread of misinformation that may be incorrect and could put someone's life in danger.

Energy Northwest website

In the event of an emergency at the Columbia Generating Station, Energy Northwest will provide updates on their website. www.energy-northwest.com.

Emergency Alert Systems (EAS)

Residents of counties within 50 miles of the Columbia Generating Station and the Hanford Site, should listen to the primary Emergency Alert Systems (EAS) radio station for their area and follow county and state government media sources.

Adams County

- 105.3 FM or 99.9 FM
- 610 AM or 920 AM

Grant County

- 105.3 FM
- 610 AM or 960 AM

Klickitat County

- 1340 AM or 1400AM
- 105.5 FM or 102.3 FM

Yakima County

- 1280 AM
- 107.3 FM

Benton and Franklin Counties

- 105.3 FM or 102.7 FM or 92.5 FM
- KONA 610 AM

Kittitas County

- 1240 AM
- 95.3 FM or 103.1 FM

Walla Walla County

- 105.3 FM
- 610 AM

CodeRED

Benton and Franklin counties also use a telephone notification system called CodeRED. CodeRed is an opt-in emergency alert system that can send text messages, phone calls, and emails in the event of an emergency.

For more information, contact:

Benton County Emergency Management | www.bces.wa.gov

Franklin County Emergency Management | www.franklinem.org

Limiting your exposure

Risk can be minimized by taking protective actions to reduce the amount of exposure to radioactive material. Exposure is most significant during the early stages of an emergency. Minimize exposure to radioactive materials, create distance between you and the source, and shield yourself by staying indoors and wearing protective clothing outdoors.

Exposure pathways

There are several ways that you can be exposed to radiation during an emergency. The best way to protect yourself, your animals, and your agricultural products is to reduce contact with radioactive material.

Being near a radiation source: People, animals, and equipment may be exposed to radiation if they are near an area where radioactive material has been released.

Radioactive material settles on surfaces: Radioactive particles can settle on skin, clothing, animals, crops, feed, equipment, soil, and other outdoor surfaces. Reducing contact with contaminated materials can help limit exposure and protect agricultural products.

Breathing airborne radioactive particles: Airborne radioactive particles can be inhaled. Particles in the lungs increase the risk of damage. Minimize the amount of radioactive material you inhale to help reduce health risks.

Ingesting contaminated food or water: If contaminated food, feed, or water is consumed, it can expose internal organs to radiation. Prolonged or high levels of exposure to certain radioactive materials can negatively impact the health of humans and animals. Officials will provide emergency guidance on agricultural products and food supplies to help protect public health.

Protective actions

State and county emergency response organizations will determine protective actions to be taken, and you will be kept informed.

During the emergency, state and county officials will release information to the media on a regular basis. This information will include the latest status on the emergency and actions that you can take to protect you, your family, and your farm. The local agricultural extension agent, county emergency management office, and local health jurisdiction will also be resources for emergency information.

Protecting Yourself and Your Farm

The primary health concern for individuals within 50 miles of radiological emergency is the consumption of contaminated foods, such as milk, fresh fruits, vegetables, processed products and water.

To help protect Washington's food supply, you may be asked to:

- Stop harvesting, processing, or distributing agricultural products from affected areas until officials determine they are safe.
- Comply with movement restrictions for livestock, milk, and other agricultural products within affected areas.
- Cooperate with authorities collecting samples of dairy, vegetation, soil, feed, crops and other agricultural products for testing.

State and local governments will take additional actions to prevent the consumption of contaminated products.

Additional Protective Actions

People working their farms or gardens may be advised how they can further reduce exposure to radioactive contamination. To minimize the inhalation or ingestion of radioactive materials and to avoid bringing contamination into living spaces, individuals might be asked to take the following steps:

- Wash hands thoroughly before eating.
- Wear clothing such as coveralls, gloves and hats while working outside. The clothing should cover all portions of the body. Remove outer clothing *before* going inside.
- As much as possible, avoid activities that stir up dust, such as plowing, digging, burning, or mowing. Wear a dust mask or a folded, dampened cloth over nose and mouth to reduce the inhalation of radioactive materials when such activities cannot be avoided.
- Do not eat, drink, or use tobacco products while working outside in a potentially contaminated area.
- Shower and wash outer clothing after completing outside activities.

Protecting Your Farm Animals

Evacuation of livestock and other farm animals may be limited during a radiological emergency, so sheltering is the most effective way to limit contamination. You can protect your animals by:

- Shelter dairy animals first. Placing animals in an enclosed shelter, closing doors and windows, if possible. Provide for adequate air supply to prevent overheating and suffocation. Limit entry of rainwater into the structure.
- If the animals must remain outside, prevent contact with radioactive contamination as much as possible. For example, pack the animals closely in an outdoor pen or herd them into a ravine, road underpass, cave, culvert or wooded area. Washington Department of Health and local public health agencies will provide information on decontaminating animals.
- Intake valves on water systems should be closed when you suspect the water source may be contaminated. This will prevent distribution or irrigation until the water source is tested and found to be safe.
- Avoid allowing animals to graze unless directed to by your extension agent or other state or local officials.
- Provide animals with protected feed including grain stored in covered bins, hay stored in a covered shed, silage stored in a covered silo, hay bales covered by a tarp or barrier plastic or bales with the outer layers discarded.
- Provide water from protected sources such as enclosed wells or covered or underground sources and avoid surface and standing water. Filler pipes should be disconnected from storage containers supplied by runoff from roofs or other surface drain fields. This will help prevent contamination from entering the storage containers. Open sources of water, such as rain barrels and tanks should be covered to prevent contamination. Local and state health experts will check open sources of water and indicate if they are safe.

Protecting Farmland, Crops, and Farm Products

Radiation protection officials will also sample dairy, feed, crops and water for laboratory analysis to determine whether any products are adulterated with radioactive materials.

State and federal officials will take samples to determine the type and level of contamination. If soil is contaminated above established safe levels, treatment procedures or alternative uses of the land will be recommended. Recommendations may include soil management procedures to reduce contamination to safe levels, such as idling — the non-use of land for a specific period of time. In situations involving highly contaminated soil, removal and disposal of the soil may be more appropriate.

The actual length of time the land should remain uncultivated depends upon the amount and types of radioactive material that settled on the land.

Dairy

In a radiological emergency, sampling and testing of dairy products is prioritized. This is because of the rapid distribution from the cow to the consumer, the short period of time it takes for contamination to appear and the potential effects on children. Protective actions that can be taken are:

- Remove and shelter dairy animals from contaminated pasture and provide protected water and uncontaminated stored feed.
- Until officials determine it is safe, do not distribute or sell milk produced after the emergency began. Store or relocate contaminated milk separately to avoid cross contamination.

Eggs

House poultry indoors and provide protected food and water. Egg consumption is discouraged if adulteration is suspected. If contamination is confirmed, disposal is recommended.

Meat and poultry

Remove and shelter production animals from contaminated pasture and provide protected water and uncontaminated stored feed. Production animals should not be used for food or moved into the marketplace until it has been officially determined they did not receive internal contamination and are safe for consumption.

Fish

Fish may continue to be harvested unless Washington State Department of Health officials determine through laboratory analysis of samples that they are adulterated. Dilution of the radioactive material in large bodies of water should make adulteration of fish highly unlikely. Samples of water and fish from open bodies of water will be analyzed to ensure they are safe.

Bees

Move hives and beekeeping equipment to sheltered areas such as barns, garages, or areas of dense vegetation. Close off the hive to prevent bees from foraging and contaminating the entire hive. Feed uncontaminated sugar water, honey, pollen, and nutritional supplements, as needed.

Fruits and vegetables

Some crops may be quickly harvested and covered to protect them before possible contamination. Ripe fruits and vegetables may be lost if harvesting poses risk of personal contamination. Root vegetables may be protected from surface contamination but should not be harvested until cleared by state radiation health officials.

Grains

If grains are permitted to grow to maturity, most contamination will probably be removed by the wind and rain. Milling or polishing should remove any remaining contamination. Sampling and laboratory analysis will determine if the grain is safe to use. When harvested, adulterated and unadulterated grains should be stored separately. Separate equipment should be used to harvest adulterated and unadulterated grains or equipment should be appropriately cleaned to limit cross-contamination of radioactive materials.

Hay, field corn, and other feed crops

Crops harvested prior to the emergency can be protected indoors or with tarps covering bales in the field. Separate equipment should be used to harvest adulterated and unadulterated crops or equipment should be appropriately cleaned to limit cross-contamination of radioactive materials.

Timber and nursery products – Logs, firewood, and Christmas trees should not be moved or sold until determined to be free of contamination.

Protecting Food Processing and Manufacturing

Production lines should be suspended, and products should not be moved or sold until official laboratory results indicate the facility and products are free from radiation contamination and suitable for commerce. Department of Health will visit food manufacturing and processing facilities as soon as it is safe to do so.

Food in transit/distribution

Food distributors must comply with official embargoes and contamination identification sampling, before products are allowed to enter or return to commerce.

Processors, warehouses, and commodity terminals

Windows and vents to the outdoors should be closed. Vacuum systems should be shut down as should compressed air systems. Any system that draws air from outdoors to the inside should be turned off.

Wait for official guidance before destroying or disposing of suspected contaminated raw, processed, or in transit agricultural products. Not adhering to guidance can cause unnecessary economic loss and environmental hazards.

Food Control Areas

State radiation health experts will determine which areas may be contaminated. They do this by using information from field measurements and computer projections. The area which includes potentially adulterated food is designated as a **Food Control Area**.

The purpose of the Food Control Area is to:

- prevent consumption of potentially adulterated food and beverages from the area; and
- prevent potentially adulterated food products from being moved to the marketplace.

Checkpoints, called Food Control Points, will be set up at the boundary of the Food Control Area to ensure that potentially adulterated food and agricultural products do not leave the Food Control Area.

To prevent the consumption of adulterated food, commercial food transport from the Food Control Area will be stopped. Cargo attempting to leave the Food Control Area will be required to return to its point of origin.

Wait for official guidance from Washington State Department of Health and your local public health agency to determine if products can be cleared for consumption.

Food and dairy products shown by lab testing to be safe for consumption will be allowed to go to market. Fresh food and dairy products will be embargoed and destroyed if lab testing shows they are adulterated. To avoid unnecessary economic loss, do not destroy agricultural products unless you have been advised to do so. This can cause unnecessary economic loss and environmental hazards.

If food crops or other food products must be destroyed, they will be collected and treated as radioactive waste and transported to specific storage facilities. For information on harvesting, storing and decontaminating your crops and land contact Washington State Department of Health – Office of Radiation Protection and your local public health agency. Your local agriculture extension agent may also provide additional guidance.

Field Monitoring and Laboratory Testing

Early field monitoring and laboratory testing will focus on two segments of the agricultural community within the Food Control Area:

- **Commercial dairy and milk processing plants** will be prioritized because contamination can appear in fresh milk within 72 hours of a release of radioactive materials. Early testing will help protect the public, especially children who are the primary consumers of milk products and are also most sensitive to radiation.

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- **Farms and food processors** will not be permitted to move out food and feed out of the Food Control Area until testing is completed. The timing and order of testing will be determined by the harvest times for crops.

Reducing Food Control Area Boundaries

The boundary of the Food Control Area will be revised as data becomes available on the extent of radioactive contamination. The Washington State Department of Health will determine when normal production and transportation activities can resume.

Relocation Area

Department of Health field monitoring teams may find an area too contaminated for people to live in or for normal farming activities to continue. Such an area is called a **Relocation Area**. Accessing these areas will be limited to emergency workers, monitoring teams, and others who must enter under controlled conditions.

Those living in a designated Relocation Area will be asked to leave the area. The length of time they will be away from their homes and farms will depend on the level of contamination. Farmers may be allowed to return to care for animals and to perform other necessary functions in these areas under controlled conditions designed to minimize radiation exposure.

Assistance Centers

Assistance centers are managed by Benton County and Franklin County. If you are told to evacuate, you may be directed to an assistance center. Upon arrival, register at the assistance center you are instructed to go to, so friends and relatives can locate you easily.

Assistance center locations are:

- Southridge High School, 3520 Southridge Blvd., Kennewick
- Columbia Basin College (CBC), 2600 N. 20th, Pasco

In an emergency where there may be a risk of radioactive contamination, evacuees will be checked for contamination at the assistance centers and, if necessary, a means of decontamination will be provided.

Other services include:

- The American Red Cross will maintain a registration file of families who report to the center. With consent, information can be provided to concerned relatives and friends.
- Temporary lodging will be made available.
- Beverages and snacks or sandwiches will be provided as soon as possible, once evacuees start to arrive at the center. A special effort will be made to provide for the dietary needs of infants, diabetics, etc.
- First aid care will be available.
- Social services and organized activities for children and adults will be provided.
- The American Red Cross will make accommodation for household pets.

Reimbursement for damages and expenses

A radiological emergency may lead to additional living expenses, loss of farm or business income, or physical or property damage.

Claims for damages or expenses

Utilities operating nuclear power facilities are required to have insurance to cover damages sustained by the public. Claims centers will be opened by American Nuclear Insurers within 48 hours of an emergency at the Columbia Generating Station power plant. The claims centers may provide reimbursement for radiological emergency caused expenses to persons affected by an ordered evacuation. Staff at the claim's centers will handle claims for living expenses, personal injury, property damage, and loss of income.

Claims for damage or loss resulting from an emergency occurring at a facility operated by the U.S. Department of Energy (USDOE) or its contractors could be filed at a claims center. In the event of an emergency, USDOE would promptly provide information to the public about how to file a claim.

Temporary Housing

The Federal Emergency Management Agency (FEMA) may provide funds for temporary housing as well as other types of assistance. Announcements will be made regarding the location of claims centers, types of assistance programs available, and procedures for obtaining assistance.

Connect with your local emergency response organizations

Six counties in Washington State are involved with preparing for a possible emergency at either the Columbia Generating Station or the Hanford Nuclear Reservation. The state of Washington represents the interests of two other counties — Kittitas and Klickitat— in the preparation process because they have very small areas and populations that would be affected by an emergency at Energy Northwest's Columbia Generating Station reactor or the Hanford Nuclear Reservation.

For more information about emergency preparedness in your community, or additional copies of this booklet, contact the emergency management or emergency services office in your county. The booklet also can be found on the Washington Emergency Management Website at emd.wa.gov or from the Washington State Department of Agriculture at agr.wa.gov.

Adams County Emergency Management

www.co.adams.wa.us/departments/emergency_services/index.php
(509) 488-3704

Benton County Emergency Management

www.bces.wa.gov
(509) 628-2600

Franklin County Emergency Management

franklinem.org
(509) 545-3546

Grant County Emergency Management

www.grantcountywa.gov/374/Emergency-Operations
(509) 754-2011 ext. 2001

Kittitas County Emergency Management

www.co.kittitas.wa.us/sheriff/emergency.aspx
(509) 962-7525

Klickitat County Emergency Management

www.klickitatcounty.org/249/Emergency-Management 509-773-0582

Walla Walla County Emergency Management

www.co.walla-walla.wa.us/residents/emergency_management/index.php
(509) 524-2900

Yakima County Emergency Management

www.yakimacounty.us/350/Emergency-Management
(509) 574-1900



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