



# City of Johnstown Emergency Management Agency

## Nuclear Accidents

The worst fixed nuclear facility accident in U.S. history occurred in Pennsylvania in March 1979 at the Three Mile Island Nuclear Generating Station. Previously, there were minimal requirements for offsite emergency planning. Following the accident, the federal licensing process was changed and now requires that comprehensive, coordinated, implementable and exercised plans be developed for the state, counties and municipalities to assure the safety of the population. Despite the knowledge gained since then, there is the potential for a similar accident to occur again at one of the five nuclear generating facilities in the Commonwealth. This threat of an incident at a nuclear generating station was compounded following the terrorist attack on this nation on September 11, 2001.



**Three Mile Island**

### Fact Sheet: Radiological Accidents

Radiological accidents can occur wherever radioactive materials are used, stored or transported. In addition to nuclear power plants, hospitals, universities, research laboratories, industries, major highways, railroads or shipping yards could be the site of a radiological accident.

#### **BEFORE**

Know these facts about radiation and materials.

- ♣ Radioactive materials are composed of atoms that are unstable. An unstable atom gives off its excess energy until it becomes stable. The energy emitted is radiation.
- ♣ The process by which an atom changes from an unstable state to a more stable state by emitting radiation is called radioactive decay or radioactivity.
- ♣ Radioactive materials are dangerous because of the harmful effect of certain types of radiation on the cells of the body. The longer a person is exposed to radiation, the greater the risk.
- ♣ People receive some radiation exposure each day from the sun, radioactive elements in the soil and rocks, household appliances like television sets and microwave ovens, and medical and dental x-rays.
- ♣ Radiation cannot be detected by sight, smell, or any other sense.

Contact your local emergency manager for information about how to respond to a radiological accident, and to learn emergency plans for schools, day care centers, nursing homes--anywhere family members might be.

Communities located on major transportation routes should develop and practice an emergency plan for handling transportation accidents involving radiological materials.

Learn your community's warning systems.

Obtain information about official evacuation routes from local officials.



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Have disaster supplies on hand.

- } Flashlight and extra batteries
- } Portable, batter-operated radio and extra batteries
- } First aid kit and manual
- } Emergency food and water
- } Non-electric can opener
- } Essential medicines
- } Cash and credit cards
- } Sturdy shoes

### Three Ways to Minimize Radiation Exposure

There are three factors that minimize radiation exposure to your body: Distance, Shielding, and Time.

**Distance**--The more distance between you and the source of the radiation, the less radiation you will receive. In a serious nuclear accident, local officials will likely call for an evacuation, thereby increasing the distance between you and the radiation.

**Shielding**--Like distance, the more heavy, dense materials between you and the source of the radiation, the better. This is why local officials could advise you to remain indoors if a radiological accident occurs. In some cases, the walls in your home would be sufficient shielding to protect you.

**Time**--Most radioactivity loses its strength fairly quickly. Limiting the time spent near the source of radiation reduces the amount of radiation you will receive. Following a radiological accident, local authorities will monitor any release of radiation and determine when the threat has passed.

### **BEFORE**

Be prepared to evacuate or shelter in your home.

Develop an emergency communication plan.

In case family members are separated from one another during a disaster (a real possibility during the day when adults are at work and children are at school), have a plan for getting back together.

Ask an out-of-state relative or friend to serve as the "family contact." After a disaster, it's often easier to call long distance. Make sure everyone know the name, address, and phone number of the contact person.

### **DURING**

Listen to the radio or television for official information.

If advised to remain at home:

- ◇ Bring pets inside.
- ◇ Close and lock windows and doors.
- ◇ Turn off air conditioning, vents, fans, and furnace.
- ◇ Close fireplace dampers.
- ◇ Go to the basement or other underground area.
- ◇ Stay inside until authorities say it is safe.



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If you must go out, cover mouth and nose with a damp towel. Be prepared to evacuate or shelter in your home.

When coming in from outdoors:

- ◇ Shower and change clothing and shoes.
- ◇ Put items worn outdoors in a plastic bag and seal it.

If advised to evacuate:

- ◇ Listen to a radio or television for information on evacuation routes, temporary shelters, and procedures.
- ◇ Minimize contamination in house.
- ◇ Close and lock windows and doors.
- ◇ Turn off air conditioning, vents, fans, and furnace.
- ◇ Close fireplace dampers.
- ◇ Take disaster supplies.

Remember your neighbors who may require special assistance--infants, elderly people, and people with disabilities.

### **After the Event**

When the immediate danger has passed, avoid using foods from your garden or milk from your cows or goats until these can be inspected by a local emergency official. Contamination could affect areas as far as 50 miles from the accident site.

## **Nuclear**

[Nuclear Power Plant Emergency](#)  
[Nuclear Hazard—Terrorism](#)