

# Emergency Planning for the Braidwood Area



**Important Safety  
Information For  
Your Community  
2011/2012**

# Nuclear Power and Public Safety

## Benefits and Potential Risks of Nuclear Power

Used properly, nuclear fission (the “splitting” of uranium atoms) is a safe, dependable source of electricity. It is reasonable, though, to be concerned about what might happen in the event of a serious incident at a power plant. Let’s look at the two most common concerns: that the reactor could explode or that neighboring communities could be contaminated with radiation.

First, a power plant reactor cannot produce a nuclear explosion. The uranium fuel contains very little fissionable material. As for radiation, the complex structure of a nuclear power plant is designed to prevent the release of radiation. A serious incident, however, could allow some radiation to escape, most likely as a cloud, or “plume,” of radioactive steam that would be carried away from the plant by the wind. The degree of risk to the public would depend on the size of the plume, the direction and speed of the wind, and other factors.



## Emergency Planning for the Braidwood Area

Special plans have already been developed to protect the public in the event of a nuclear incident in your area. First, control room operators at the power plant would immediately notify local authorities. At the same time, special teams would begin testing radiation levels outside the plant and throughout surrounding areas. If necessary, area officials would declare an emergency and take the following measures to ensure public safety.

**Warning Sirens.** Communities across the U.S. use outdoor sirens to warn of fire, flood or other threatening events. The sirens generate a loud, continuous pitch for at least three minutes. In Illinois, sirens are tested on the first Tuesday of each month at 10:00 a.m. If you hear sirens and are not sure what they mean, tune to one of the radio stations listed in this brochure.

**Emergency Broadcasts.** Authorities relay emergency information and instructions to the public over local radio and TV stations, including the radio stations listed in this brochure. In an emergency, these stations are your best source of accurate news.

**Shelter-In-Place or Evacuation.** Officials may recommend that people either take shelter indoors or evacuate an area. It is critically important that you follow the recommended course of action. Staying home when instructed to evacuate or driving around when urged to stay indoors could expose you to danger unnecessarily.

**NOTE:** If you or someone you know might not respond to warning sirens or radio broadcasts due to impaired hearing or other factors, please use the attached reply card to notify local authorities now.

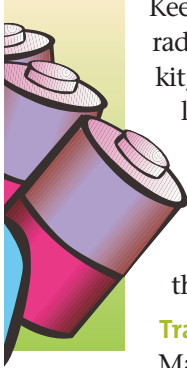
# How to Prepare for an Emergency

You never know when you might have to leave your home on short notice. A nuclear incident is only one possibility. Floods, fires, chemical spills or severe illness could occur at any time. Preparing now will help you respond more quickly in any emergency.



## Emergency Kit

Keep an emergency kit — portable radio, flashlight, extra batteries, extra car keys, first aid kit, and other items — in a special place that the whole family can easily locate. Include this brochure, with your location marked on the map, in your emergency kit. Write a list of the items you would want to take if you had to leave home quickly and post the list in a convenient spot. Be sure to keep a supply of all the items on your list. Gather any important documents you might need in an emergency and keep them together in a safe place that you can access quickly and easily.



## Transportation

Maintain your vehicle in good running order and keep the gas tank at least half full at all times. If you would need transportation in an emergency, use the attached reply card to notify local authorities now.

## Pets

Shelter for evacuated pets will be available. You will receive pet sheltering information when you arrive at the congregate care shelter for your area. Service animals will be allowed in the Reception Centers and Shelters.

# What to do in an Emergency

## Listen for Emergency Instructions

Tune your radio to one of the stations listed in this brochure and follow all emergency instructions.

## Keep Phone Lines Open

*Please do not make unnecessary phone calls.* Leaving phone lines open for emergency workers will help everyone involved. If you require assistance, call the emergency phone numbers broadcast on the radio.

## Shelter-in-Place

Go indoors and stay there. Close all doors and windows and shut off any systems that draw in outside air, such as furnaces, fireplaces and air conditioners. Keep listening to the radio for updates.

## If Instructed to Evacuate

In an evacuation, people in the affected area would be asked to go to local reception centers to be monitored and registered — after which they could stay at specified relocation centers or with friends or relatives outside the evacuation zone.

*Please do not try to pick up children or others at schools, hospitals, nursing homes, or overnight campgrounds. These facilities will be following their own special emergency plans and you would most likely miss connections. If evacuated, students, hospital patients and nursing home residents will be accompanied to relocation centers where their needs will be addressed. To find out where people are being moved, stay tuned to the radio.*

Plan for three days away from home, locking up and turning appliances off as you would for a weekend vacation. Pack all necessary items. (See "Packing Checklist.") Evacuate everyone in your home, following directions given on the radio. These routes have been selected as the safest ways out of the affected area.

Law enforcement agencies will maintain security in evacuated areas and provide traffic control.

**If You Have Livestock**

When advised to do so, remove all livestock from pasture, shelter if possible, and provide them with stored feed and protected water. If shelter-in-place and/or evacuation is recommended, efforts to care for livestock should be discontinued in the affected areas and the shelter-in-place and/or evacuation recommendation should be followed.

## People with Special Needs

Those with impaired sight, hearing or mobility may have difficulty responding to an emergency.

If you, someone in your household or someone you know who lives in the circled area on the map would need special assistance in an emergency, please notify area authorities today. Simply fill out and mail the attached reply card. The card is postage-paid, so you don't even need a stamp.

If you prefer you may contact your local Emergency Management Agency directly. Area agencies are listed elsewhere in this brochure.

Fold Here

**Please check yes or no for the following questions:**

- 1** Do you have a hearing impairment that would make it difficult to hear warning sirens or other emergency notifications?  Yes  No
- 2** Do you have a medical or physical condition that would make it difficult to evacuate in an emergency?  Yes  No
- 3** Are you without any personal means of transportation, such as a car or truck, to evacuate in an emergency?  Yes  No
- 4** Would you need medical attention outside your home?  Yes  No
- 5** Would you like extra copies of this brochure sent to you?  Yes  No

Name

Address

City & Township

Telephone Number

*Please provide your address, city and township, and telephone number. 2010*



Know your location on the map and mark it. Some primary evacuation routes are listed below. In an emergency, follow the directions given on the radio, even if different from those shown below. Broadcasted directions will be based on actual road and weather conditions and wind direction — helping to ensure your safety as you leave the evacuation area.

## Evacuation Routes/Reception Communities

### Joliet

- I-55 north
- Illinois 53 north

### Pontiac

- I-55 south
- Illinois 47 south to I-55 south
- Illinois 113 west to Illinois 47 south to I-55 south

### Kankakee

- Illinois 113 east
- Illinois 17 east
- Illinois 102 east

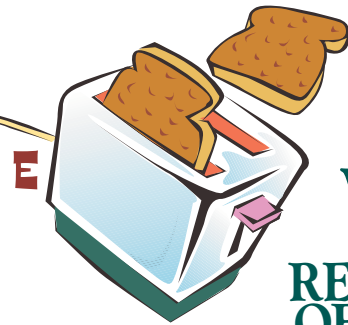
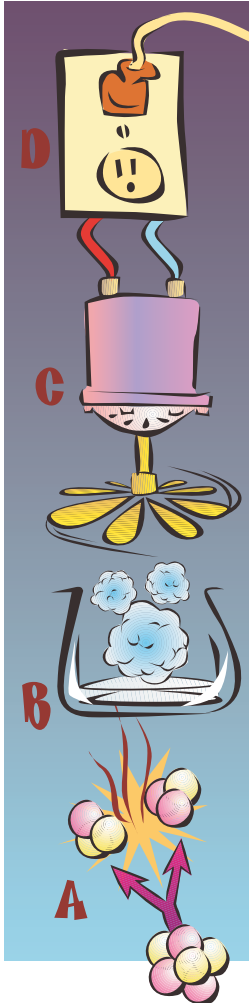
# What you need to know about Nuclear Power Plants & Radiation

## HOW DO NUCLEAR PLANTS WORK?

Power plants create electricity by running steam turbines, which are powered either by fossil fuels — coal, oil, natural gas — or by nuclear power. Nuclear technology produces energy by splitting uranium atoms in a process called fission.

**A** Fission generates heat that **B** boils water for the steam that runs the **C** turbines, which produce the **D** electricity that we all use — making, for instance, **E** toast for breakfast.

In a nuclear power plant, pea-sized uranium pellets are stacked inside long, thin fuel rods which are grouped in “assemblies” inside a reactor “core.” The core is encased in a very thick steel capsule, and the entire reactor is further protected by an airtight steel and concrete building called a “containment.” This complex structure is designed to help ensure the safe utilization of nuclear power.



## WHAT ARE THE REAL RISKS OF NUCLEAR POWER PLANTS?

Sometimes people are concerned a power plant reactor will “blow up,” but this is virtually impossible. The uranium contains only 3 to 4 percent fissionable material, and the fuel is further diluted to slow down the fission process. This low concentration can generate enough heat to boil water — but not enough to explode. In short, there is no way for a power plant reactor to produce a nuclear explosion.

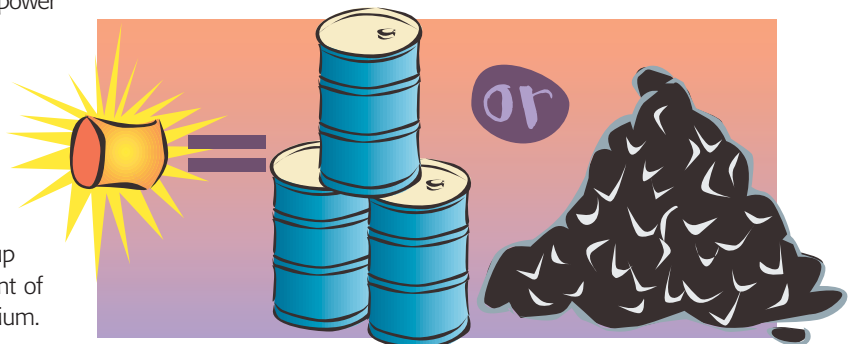
Some people also think they, or the environment, may be accidentally exposed to nuclear radiation by living or being near a nuclear power plant. Although radioactivity can be dangerous, keep in mind a power plant reactor is designed to contain radiation, protecting the rest of the plant and the surrounding community. To ensure the greatest safety, however, any incident at a power plant that presents the slightest potential for a leak will be addressed with the utmost care.

First, special teams would gather detailed radiation readings at the plant and throughout surrounding areas. Depending on a number of factors, including the amount of radiation released and weather conditions that would affect movement of the radioactive “plume”, state officials will recommend a course of action. A significant incident might require people to stay indoors or to evacuate to temporary reception centers. In any event, you will be instructed in a safe course of action to protect yourself and your loved ones.

## HOW DO WE ALL BENEFIT FROM NUCLEAR POWER?

Any fuel used to produce energy also produces waste. By-products of coal-burning include smoke, ashes and slag. Even with the latest technologies, it is impossible to prevent some of this waste from reaching the environment outside the power plant. Nuclear power generation, on the other hand, produces waste primarily in the form of spent fuel, which is not released into the environment.

Besides helping to protect the environment, nuclear energy is also highly efficient, producing vastly more energy for its weight than coal or oil. We would have to burn 120+ gallons of oil or up to a ton of coal to produce the same amount of energy as that found in a single pellet of uranium.



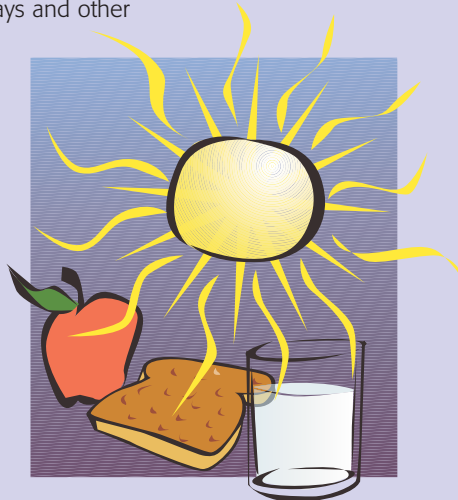
# WHAT IS RADIATION ?

Essentially, radiation is a form of energy that can travel through the air, just like light, heat or radio waves. Small amounts of radiation are naturally generated by different elements in the environment. Food, water, air and sunlight all expose us daily to tiny amounts of radiation. Uranium is simply a more powerful source of radiation which, when used properly, can be highly beneficial.

Radiation is measured in rems or in millirems (thousandths of a rem). On average, a person living in the Midwest receives about 300 millirem of radiation annually from natural sources and another 300 millirem or so from X-rays and other medical procedures.

It takes more than 35 times this much — over 20,000 millirem in a single day — to produce identifiable effects in the body. Federal

regulations allow workers to receive up to 5,000 millirem of radiation in the course of a year's work.



FOR MORE INFORMATION, PLEASE VISIT OR CONTACT:

**[www.nrc.gov/about-nrc/radiation.html](http://www.nrc.gov/about-nrc/radiation.html)**

**[www.nei.org](http://www.nei.org)**

**[www.iema.illinois.gov](http://www.iema.illinois.gov)**

**[www.bt.cdc.gov/radiation](http://www.bt.cdc.gov/radiation)**

**[www.hps.org/publicinformation/RadTerms](http://www.hps.org/publicinformation/RadTerms)**

**Illinois Emergency Management Agency**

1035 Outer Park Drive

Springfield, Illinois 62704-4462

(217) 782-6594

# Radio stations

## Grundy County

FM 90.7, WBEQ  
FM 95.7, WJDK  
FM 103.1, WCSJ

## Kankakee County

FM 95.1, WVLI  
FM 101.7, WIVR

## Will County

AM 1340, WJOL  
FM 96.7, WSSR  
FM 98.3, WCCQ  
FM 100.7, WRXQ

### Classification of Accidents

Should an accident occur at the Braidwood Generating Station, there are four accident classifications you might hear reported on the radio or TV, or read about in the newspapers.

**Unusual Event:** Events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

**Alert:** Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of a hostile act. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

**Site Area Emergency:** Events are in process or have occurred which involve an actual or likely major failure of plant functions needed for protection of the public or security events that result in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) prevents effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

**General Emergency:** Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or security events that result in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

## Packing Checklist

**Medical Supplies:** Prescribed medications, first aid kit, eyeglasses, hearing aids

**Money:** Cash, credit and ATM cards

**Important Documents:** Personal address book or papers you may need in an emergency

**Clothing:** Including coats, shoes, outerwear

**Personal Hygiene Items:** Soap, shampoo, shaving kit, dental, eye care and sanitary products

**Baby Needs:** Bottles, formula, diapers, favorite toy, clothes, blanket, car seat

**Foods for Special Diets**



*To help ensure your safety, state and local governments have developed plans for responding to emergencies such as fires, chemical spills or severe weather in your area. These plans give specific attention to people who — like you — live, work or visit within ten miles of a nuclear power plant. Procedures are in place to help protect you and other members of the public in the unlikely event of a nuclear emergency.*

*Exelon Nuclear, which operates nuclear power plants in Illinois, works in cooperation with area agencies to inform the public about emergency planning. This brochure addresses procedures for the Braidwood area. Please read and keep this material for future reference. Although it specifically addresses a potential nuclear accident, much of the information is useful in any emergency.*

*For additional copies of this brochure, please contact:*

*Exelon Nuclear Emergency Preparedness,  
4300 Winfield Road, Warrenville, Illinois 60555.*

## **For More Information on Emergency Planning in Your Area, Please Contact:**

**Illinois Emergency Management Agency**

1035 Outer Park Drive  
Springfield, Illinois 62704  
(217) 782-6594  
[www.iema.illinois.gov](http://www.iema.illinois.gov)

**Kankakee County Emergency Services and Disaster Agency**

3000 S. Justice Way  
Kankakee, IL 60901  
(815) 802-7100  
[www.kankakeecountysheriff.com](http://www.kankakeecountysheriff.com)

**Will County Emergency Management Agency**

302 North Chicago Street  
Joliet, IL 60432-4059  
(815) 740-8351  
[www.willcountyma.org](http://www.willcountyma.org)

**Grundy County Emergency Management Agency**

1320 Union Street  
Morris, IL 60450-2426  
(815) 941-3212  
[www.grundyco.org](http://www.grundyco.org)