

COOPER NUCLEAR STATION

2019 • EMERGENCY PLANNING INFORMATION

IMPORTANT INFORMATION / Please read and save



To our Cooper Nuclear Station Neighbor:



Patrick L. Pope
President & CEO
Nebraska Public Power District

We at the Nebraska Public Power District are dedicated to producing electricity in the safest way possible. We have operated Cooper Nuclear Station safely and without harm to the public or our environment since the station started operating in 1974.

Keeping you safe includes being prepared for an emergency, if one were to ever occur.

The enclosed information is a guide for your protection and safety, in the event of a major emergency at Cooper. It has been prepared for you by NPPD, who owns and operates the station, and local government officials. It is very important that you read the emergency preparedness information and keep it handy. We hope you find it attractive enough to hang on your wall.

If emergency actions for the public are required, your local Emergency Alert Station is your best source for information. See page 13 for the radio and television stations in your area. You can also contact NPPD at any time of day by calling: 1-877-275-6773.

If you need additional information about the station specifically or about our emergency plan, please call (402) 825-3811 between 7 a.m. and 4 p.m., Monday - Friday, or write to:

Emergency Preparedness Department
Cooper Nuclear Station,
72676 648A Avenue
Brownville, Neb. 68321

If emergency actions for the public are required, your local Emergency Alert Station (EAS) is your best source for information. See page 13 for the EAS station in your area. For additional information, a public information hotline for use by residents in the 10-mile EPZ will be made available by calling 1-877-275-6773.

A T T E N T I O N

IMPORTANT INFORMATION

1

The information in this calendar is provided for the protection and safety of people living or working within a 10-mile radius of Cooper Nuclear Station in the event of a serious emergency. If you, or someone you know is **not currently receiving emergency preparedness information, does not have a NOAA/EAS radio in their home and is outside the hearing range of a siren**, please read, complete, and mail **Postcard #1**.

2

If you live within the 10-mile radius of Cooper Nuclear Station and have **access and functional needs**, please read, complete and mail **Postcard #2**.

3

Nebraska Public Power District is dedicated to our mission to safely generate and deliver low-cost, reliable energy and provide outstanding customer service. We are interested in your **comments and suggestions** concerning the emergency preparedness information contained in this calendar. Please read, complete and mail the survey questions on **Postcard #3**.

POSTCARD #1 REQUEST FOR NOAA/EAS RADIO OR INFORMATION

Need NOAA/ EAS Radio

Please help us by filling out this card and mailing it if you or someone you know fits one of the categories listed below.

I live/work within the 10-mile radius of Cooper Nuclear Station and . . . (check one)

- Am outside the hearing range of a siren and do not have a NOAA/EAS radio in my home.
- Have not been receiving emergency preparedness information. Please send information and add my name to the mailing list.
- Have changed my name/address.

CURRENT ADDRESS: (Please Print)

Name _____

Address _____
(Street) (City) (State) (Zip)

PREVIOUS ADDRESS: (Please Print)

Name _____

Address _____
(Street) (City) (State) (Zip)

Telephone (_____) _____

NPPD thanks you for your cooperation.



POSTCARD #2 ACCESS AND FUNCTIONAL NEEDS

Access & Functional Needs

If you live within the 10-mile radius of Cooper Nuclear Station and have special needs, please help us by filling out and returning this card. This information may be used by state and local emergency preparedness agencies.

- I have difficulty hearing. I am visually impaired.
- I have other functional needs. (Explain) _____
- I need transportation in the event of an emergency evacuation. (Give directions to your house.)

(Example: 1 mile west of Langdon, MO and 1 mile north, west side of road.)

- I am a part-time resident.

(List months you are here) _____

- Other access and functional needs. (Explain) _____

Name _____

Address _____

(City) (State) (Zip)

Telephone (_____) _____



POSTCARD #3 LET US HEAR FROM YOU

Survey

NPPD is interested in your comments and suggestions about the Cooper Nuclear Station Emergency Planning and Information contained in this calendar. Please read, complete and mail this survey card.

1. Do you find the information in this calendar useful? Yes No

Why _____

2. Is the information in the calendar easy to understand? Yes No

Why _____

3. In the future, how would you like this important safety information provided to you?

Calendar format Informational brochure Other _____

4. How could NPPD improve upon the information contained in the Cooper Nuclear Station Safety Calendar? _____

Name _____

Telephone (_____) _____



IMPORTANT

PLEASE READ AND KEEP THIS EMERGENCY PLANNING MATERIAL

For additional information or additional copies of this calendar, write or call:

Nebraska Emergency Management Agency
2433 Northwest 24th Street
Lincoln, Nebraska 68524
(402) 471-7420

Missouri State Emergency Management Agency
P.O. Box 116
Jefferson City, MO 65102
(573) 526-9100

Nebraska Public Power District
Emergency Preparedness Dept.
72676 648A Avenue
Brownville, NE 68321
(402) 825-3811

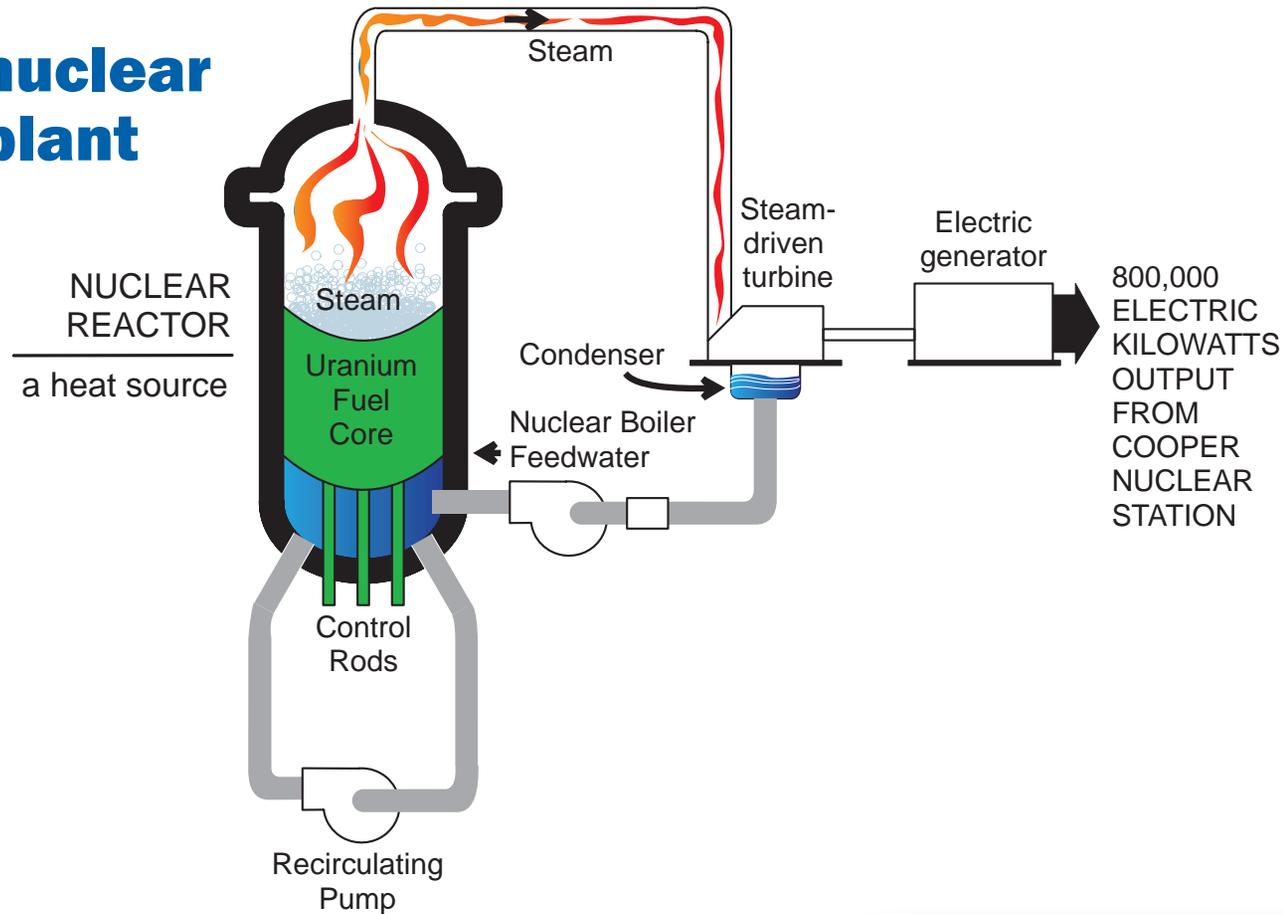
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How a nuclear power plant works



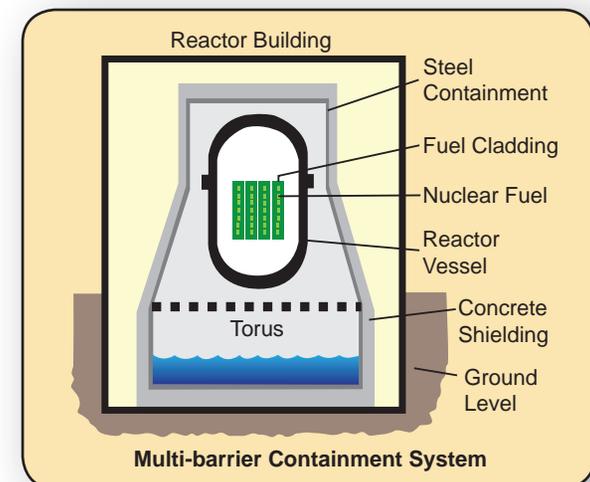
Multiple safety barriers are in place

A nuclear power plant is designed with several physical barriers to prevent the release of radioactive material in the event of an accident.

First, uranium fuel, in the form of hard ceramic pellets, is encased in metal **Cladding** (Fuel Rods) to contain them.

Second, all the Fuel Rods, called the Reactor Core, are surrounded and cooled by pressurized water. This **Pressurized Water Boundary** is contained inside the **Reactor Vessel** which is made of thick steel.

Finally, the reactor vessel is located in a **Primary Containment System** comprised of thick steel, and reinforced concrete. All of these protective barriers are located in the **Reactor Building**, another barrier designed to prevent radioactive material from escaping.



What is a nuclear reactor, and how does it work?

A nuclear reactor generates heat by the controlled fission of uranium fuel.

Cooper Nuclear Station uses a “Boiling Water Reactor” or BWR, manufactured by General Electric Company. The fuel, uranium dioxide, is in pellets about the size and shape of cigarette filters. These are stacked in sealed metal tubes about 12 feet long. Bundled together, these fuel rods make up a fuel assembly. These assemblies, or bundles, are carefully arranged to form the core of the reactor.

This core is inside a thick-walled steel tank called the reactor vessel. Water in this tank circulates freely around the fuel rods, which work much like the heating elements in an electric water heater. The water boils as it is heated by the splitting atoms and leaves the tank as steam. The steam goes through pipes to the turbine-generator to make electricity.

Operation of the reactor is controlled by rods which contain a neutron-absorbing substance. These control rods absorb neutrons much as a blotter soaks up ink. When the rods are inserted among the fuel assemblies, neutrons are absorbed and the nuclear fission process can be slowed or even stopped. As the rods are withdrawn more neutrons are available to split atoms, allowing a controlled chain reaction to begin and the amount of heat produced to increase. The nuclear fission process also is controlled by circulating large amounts of water through the reactor core.

The nuclear power reactor in short, can be compared to a furnace in a fossil-fuel plant. Instead of producing steam by burning coal, it is done with fuel rods heated by nuclear fission. Everything used in the design of conventional boilers applies here also.

EMERGENCY CLASSIFICATIONS

Notification of Unusual Event - An Unusual Event is the lowest level of emergency. A minor problem has occurred at the plant. NPPD will notify Federal, state and county officials. No release of radioactive material or radiation above licensing standards is expected. You won't have to do anything.

Alert - An Alert is a minor problem at the plant that will not affect you but may result in a lowering of the level of safety at the plant. NPPD will notify Federal, state and county officials and they will stand by, ready to take safety precautions if necessary. No release of radioactive material or radiation above licensing standards is expected. You should not have to do anything.

Site Area Emergency - A site area emergency is an indication of a more serious problem at the plant. There is potential for small amounts of radiation to

be released into the area around the plant. If deemed necessary, state and county officials will take actions to ensure public safety. Sirens will sound and your EAS tone-activated radio will turn on....listen to your local radio and television stations for information and be prepared to follow any instructions provided.

General Emergency - This is the most serious level of emergency. An incident has occurred which could result in the release of radiation outside of the plant area. There is a potential for public health risks and you may have to take steps to protect yourself. Sirens will sound and your EAS tone-activated radio will turn on....listen to your local radio and television stations for information and be prepared to follow any instructions provided by state and county officials. You may be instructed to take shelter in your home or evacuate the area.

Terms you should be familiar with

Alpha radiation - The nucleus of a helium atom. It is the least penetrating type easily stopped by a sheet of paper.

Atom - The basic component of all matter. The smallest part of an element which has all the chemical properties of that element.

Background radiation - Radiation from natural sources including cosmic rays, rocks, soil and minerals inside the body. Normal background radiation for Americans averages 300 millirems per year, with higher figures occurring at higher altitudes.

Beta radiation - A high speed electron. It occurs during fission and can be stopped by thin cardboard.

Cold shut-down - When the reactor is shut down and cooling water in the reactor is below the boiling point and pressure is reduced to that of the atmosphere.

Containment building - The structure housing the

nuclear reactor. It is designed to keep radioactivity inside that might be released to the outside in an accident.

Containment vessel - A gas-tight shell or other enclosure around a reactor.

Control rods - Moveable rods that slow down or stop a nuclear chain reaction.

Core - The part of a nuclear reactor containing the fuel assemblies which generate heat by fission.

Element - Any of more than 100 fundamental substances that consist of atoms of only one kind and that singly or in combination constitute all matter.

Emergency Alert System (EAS) - A system of radio and television stations used by government agencies to alert the public of emergency conditions. The primary EAS Radio Station broadcasts 24 hours per day.

Terms you should be familiar with *continued*

Emergency Core Cooling System (ECCS) - A series of backup safety systems designed to pump thousands of gallons of cooling water into the reactor to cool the nuclear fuel. This is used if the main cooling system fails.

Emergency Planning Zone (EPZ) - The area within an approximate 10-mile radius of a nuclear power plant given special attention in an emergency situation.

FEMA - Acronym for Federal Emergency Management Agency. An agency of the federal government which has the responsibility for overseeing emergency operations and emergency preparedness planning at state and local governmental levels.

Fission - The splitting or breaking apart of an atom into separate parts. This releases energy and produces heat.

Fuel rods - Long, slim, metal tubes which are filled with cigarette filter-size pellets of uranium fuel.

Gamma radiation - Similar to an X-ray and can be stopped by heavy shielding such as lead or concrete.

Half-life - The time required for a radioactive substance to lose 50 percent of its radioactivity. These substances decay to another nuclear form. Half-life can vary from less than a second to billions of years, depending on the substance.

Meltdown - The overheating of a reactor core (above 5000°F), usually because the cooling system fails. This causes the fuel to melt.

Millirem - A unit used to measure radiation dosage.

Neutron - An uncharged atomic particle used to split an atom of nuclear fuel. It also can be stopped by heavy shielding.

Noble gases - Gases which do not combine chemically with other materials. The noble gases are helium, neon, argon, krypton, xenon and radon.

NRC - Acronym for Nuclear Regulatory Commission. An agency of the federal government which has the authority to license, regulate, inspect and oversee safety-related activities of nuclear power plants.

Nuclear fuel - The basic nuclear fuel is uranium, heaviest of the natural chemical elements.

Nuclear reactor - A nuclear reactor is a device for the controlled fission of a nuclear fuel. It can be compared to a furnace in a fossil-fuel plant. Instead of producing steam by burning coal, it is done with fuel rods heated by nuclear fission.

Protective Action - Actions that should be taken by individuals when instructed to limit or avoid radiation dose. Examples of protective actions would be Shelter-in-Place and Evacuation.

Protective Action Guide (PAG) - Projected dose to an individual in the general population that warrants the implementation of protective action. The Food and Drug Administration and Environmental Protection Agency have recommended specific protective action guides in terms of the level of projected dose

that warrants the implementation of evacuation and sheltering, relocation, and limiting the use of contaminated food, water, or animal feed.

Radiation - Energy given off by radioactive materials.

Radiation Dose - The amount of radiation absorbed by a person.

Reception Center - A facility, where registration of evacuees is conducted. Evacuees may also receive aid and care there including radiological monitoring and decontamination if necessary.

Shielding - Material within a nuclear plant that prevents the escape of radiation. Common shielding materials are concrete, water, lead and steel.

Turbine Building - A structure housing the steam turbine, generator and much of the feed-water system in a nuclear power plant.





What is radiation?

- : The nuclear power industry is a small contributor to the amount of radiation we receive simply by living on this earth.

Radiation is energy given off by radioactive materials. There is nothing new or mysterious about radiation. It has always been a part of our world. We are constantly exposed to radiation from the sun and outer space. Natural radioactive materials are present in the earth around us, in the buildings we live in and in our food and water. There are radioactive gases in the air we breathe and our bodies themselves are radioactive.

People receive different amounts of this natural radiation depending upon where they live. Persons living in Denver, for example, receive double the amount of cosmic radiation as we do in this part of the country. That's because of Denver's higher altitude.

We are also exposed to man-made sources of radiation. For more than half a century, doctors and scientists have used X-rays and other forms of radiation. Medical exams and treatment are our main sources of exposure to man-made radiation. Although it could be harmful in large amounts, this radiation has saved hundreds of thousands of lives.

A nuclear power plant is also a source of man-made radiation, although in normal operations the amount reaching the environment is so small it is insignificant.

The effect radiation has on the human body depends upon the radiation dose received by the individual. Effects will vary based on the length of time exposed to radiation; how much of the body is externally exposed to radiation; and the amount of the radioactive material that may be inhaled or ingested resulting in internal contamination.

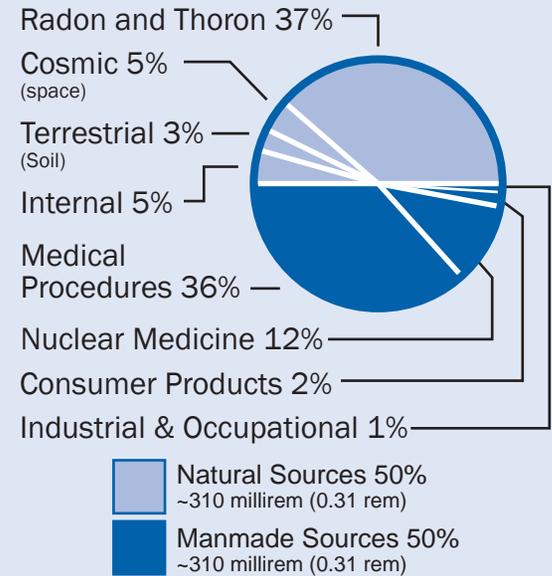
Because of this, nuclear power plants are designed and built to contain radioactivity (keep it inside) and prevent it from reaching the environment, both during normal operation and in case of an accident. This contain-and-prevent concept has worked.

You cannot see or smell radiation, but it can be detected, accurately and easily, with specialized equipment. Highly trained technicians using these instruments are continually checking radiation in and around Cooper Nuclear Station. Should a nuclear incident occur, they will check all areas that might be affected. State health officials will study this information and tell you what actions to take.

The average person living in the United States receives 620 millirem per year from natural and man-made sources of radiation.

- Living next to a Nuclear Power Plant: <1 millirem

Annual U.S. Radiation Dose



Radiation Source

NATURAL:

Radiation Source	Average Annual Whole Body Dose (millirem/year)
Cosmic	31
Terrestrial	19
Radon	229
Internal (K-40, C-14, etc.)	16

MANMADE:

Medical	300
Consumer Products	13

ALL OTHER:

Fallout, Air Travel, Occupational, etc.	12
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AVERAGE ANNUAL TOTAL 620 millirem/year

Tobacco.... (if you smoke, add ~ 280 millirem/year)



How would I be notified/what should I do?

Should a major emergency occur at Cooper Nuclear Station, sirens will sound a steady tone for three to five minutes which will alert you to turn on your radio or television set for information. Rural residents will be alerted when your NOAA/EAS radios automatically turn on.

If an emergency occurs at Cooper Nuclear Station, the station will immediately notify state, federal and county officials.

Local and state officials will use an alert and notification system to inform residents within a 10-mile radius of Cooper Nuclear Station that an emergency exists.

The alert and notification system is made up of sirens located in populated areas, and National Oceanic & Atmospheric Administration (NOAA) Emergency Alert System (EAS) radios, located in rural residences which are outside the effective hearing range of the sirens.

Information will be broadcast over the local radio and television stations which form the Emergency Alert System (EAS) in this area.

The siren system is silent tested four times a month (usually on Tuesdays). The NOAA/EAS radios are tested weekly (usually Wednesday mornings at 11:15) whenever the local NOAA Weather Radio Transmitter sends a test message.

It is important for you to know that this alert notification system has more than one use. It can also be used by local officials to warn of other emergencies, such as fire or severe weather. Listen to your EAS radio station and local television stations for emergency information.

A list of EAS stations and local television stations can be found on page 13.





Who would be affected?

Emergency preparedness efforts are divided between Cooper Nuclear Station, private organizations and governmental agencies. The purpose is to protect the health and safety of the public and Cooper Nuclear Station employees in the event of an emergency.

Federal regulations and the Cooper Nuclear Station emergency plan directs that special attention should be given to people within a 10-mile radius of the plant. This 10-mile radius is called the Emergency Planning Zone (EPZ). Cooper Nuclear Station's EPZ includes portions of Nemaha and Richardson Counties in Nebraska, and portions of Atchison County in Missouri.

If an emergency occurred at Cooper Nuclear Station, it is unlikely that everyone in the 10-mile radius would be affected. It would depend on the type of accident and on weather conditions,

such as wind direction and speed. Because of this, it is important that you locate where you live on the enclosed map (page 9) AND pay close attention to information broadcast over your EAS network station. You will be instructed to take protective actions ONLY if it is necessary for your safety.

What should I do if the sirens sound?

Remember, the sirens and NOAA EAS Radios are only to alert you to tune in to your local emergency alert system radio or television station for information and instructions. This station will give you information about what to do.

Check on your friends and neighbors who might need assistance. Share this information with them.

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If emergency actions for the public are required, your local Emergency Alert Station (EAS) is your best source for information. For additional information, a public information hotline for use by residents in the 10-mile EPZ will be made available by calling 1-877-275-6773.

Sign Up to Receive Emergency Alerts.

Nemaha, Otoe, and Richardson Counties

Cooper Nuclear Station participates in the Southeast Nebraska Emergency Notification System...Serving Nemaha, Otoe, and Richardson Counties. This system service is provided by Everbridge. You may sign up to receive emergency alerts delivered directly to your home or business telephones, and/or E-mail, text messaging, SMS, and mobile telephone devices and pagers.

To sign up for this service and start receiving emergency alerts, Visit: <http://www.nemahacounty.ne.gov/> and click on the **Citizen Alert** button at the bottom of the page and then follow the instructions. If you need assistance signing up contact the **Nemaha County Emergency Management Agency** at **402-274-2552**.

Atchison County uses TextCaster for emergency alerts. To sign up for emergency text notifications through **TextCaster**, visit <http://my.textcaster.com/ServePopup.aspx?id=1764>



How do I protect myself against radiation?

There are simple steps you can take to provide protection for yourself and your family from being exposed to radiation. These are staying indoors (shelter-in-place) or leaving the area (evacuation). State or county officials will recommend what you should do.

If there is radioactive material in the air, state officials may recommend that you cover your mouth and nose. A large cotton handkerchief can be a good air filter. The handkerchief should be folded into several layers, and placed over the mouth and nose. A bath towel folded into two layers is almost as good. It is important that you have a proper fit over your mouth and nose.

If necessary, information will be broadcast over the local radio and television stations which form the Emergency Alert System.

Shelter-in Place

This means going indoors and staying there until the emergency has passed. If you are told to go indoors, there are things you need to do when inside:

1. Stay tuned to your EAS radio station for instructions.
2. Do not use your telephone unless it is absolutely necessary. Leave the lines open for official emergency business.

3. Stay indoors until you are told that it is safe to go out.

In the event you are in the affected area you should:

4. Close all windows and doors. Turn off fans, furnaces, or air conditioning that require outside air. Close any other outside air intakes.
5. Cover all open food containers.
6. Wash your hands and face, particularly before handling or eating any food. If you were outside and if possible, take a shower using lukewarm water. Change any item of clothing worn outside, place them in a plastic bag and then put them in an isolated part of the home.

Evacuation

If your area must be evacuated, you will be told by radio, television or directly by an authorized person.

You will be asked to leave the area ONLY if it is necessary for your safety. There should be enough time for orderly actions.

Keep the following in mind:

1. Remain calm. You are far more likely to be hurt acting in haste than you are by radiation.
2. Gather personal items you

may need: Clothing, toiletries, bedding (sleeping bags), eyeglasses, credit cards, prescription medicines/medical supplies, flashlight, radio, batteries, cellular telephone and charger.

3. Care for pets and livestock, providing food, water and shelter if possible.
4. Turn off all small appliances and lock all doors and windows when leaving.
5. Drive safely, using evacuation routes on the map on page 9, or follow the evacuation directions on page 10. Follow any instructions given by traffic control officers. If you become stranded, raise your hood to signal that you have a problem.
6. If your vehicle's heating and air conditioning system has an "air recirculation" mode, place the heating and air conditioning system in that mode, if not, keep windows and vents closed while traveling.
7. Keep your car radio on and tuned to your local EAS station.
8. Go directly to the reception center (see pages 10 and 11). There will be help for you to find food and lodging. Sign in at the center even if you do not intend

to stay there, so that local officials can answer any inquiries about your welfare.

Note: Arrangements have been made for residents of special-care facilities.



Remember to:

- Listen to EAS Radio station.
- Close windows and doors.
- Help your neighbor.
- Sign in at Reception Center.



Evacuation information for school children

Schools in an area being evacuated will close and children will be cared for according to the school district's emergency plan.

All school emergency plans provide for the following:

If an incident occurs before school opens and the buses have not started their routes, the school will not open and children will stay with their families.

If school is in session, or the buses **have** started their routes, the school will act as a **UNIT**. If evacuation is directed, all students, faculty and staff will leave the area using all available buses and private vehicles as directed by school officials.

School actions, including locations of evacuated school children, will be broadcast over the Emergency Alert System (EAS).



Evacuation Information for persons with access and functional needs or persons without private transportation*

They are:

In Peru

The library of Peru State College

In Brownville

The Brownville Post Office

In Nemaha

The Nemaha Rural Fire District Station

In Shubert

The Community Building

Able-bodied rural residents who do not have private transportation should call the county sheriff's office.

**Arrangements have been made for residents of special care facilities.*

Missouri

Persons in need of transportation should call the Emergency Operations Center:

Atchison County

(660) 736-5404

(660) 736-5405

Nebraska

Persons in need of transportation should call the county Emergency Management Director's office:

Nemaha County

(402) 274-2552

Richardson County

(402) 245-3054

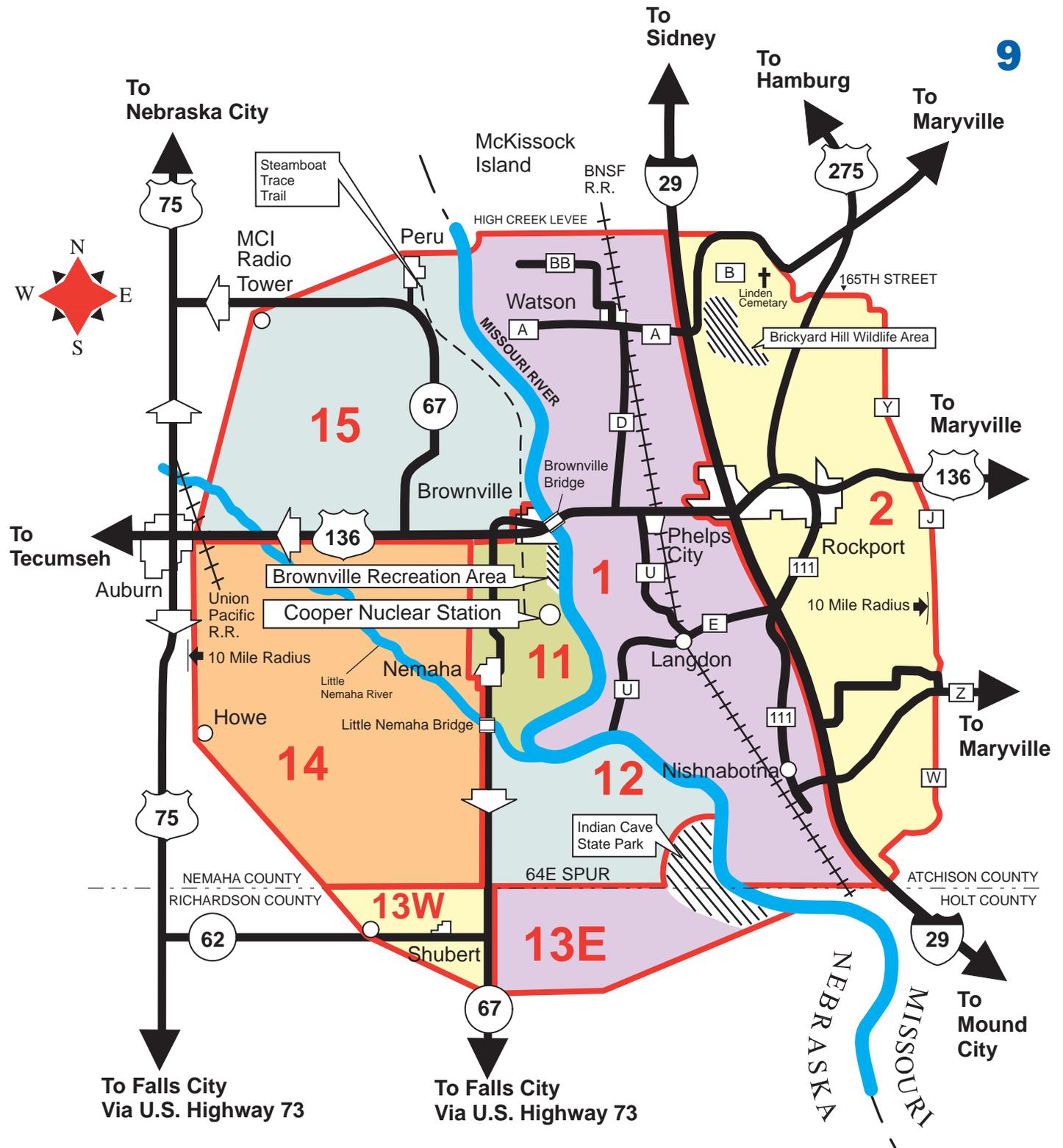
Able-bodied residents of Peru, Brownville, Nemaha, Shubert and Barada **without** private transportation should go to the closest public transportation area.

EMERGENCY ALERT SYSTEM BROADCAST STATIONS

A listing of Emergency Alert System Stations can be found on Page 13.

Please tune to an EAS Station covering your area.

I live in Area _____.



LOCATION	EVACUATION ROUTES	RECEPTION CENTERS
<p>11 From the Brownville Bridge on U. S. Highway 136, south along the west bank of the Missouri River to the confluence of the Little Nemaha with the Missouri River, northwest along the north bank of the Little Nemaha River, to U. S. Highway 67, then north to the intersection of Iowa Street and U. S. Highway 67 in Nemaha. Then following the southern and western boundary of Nemaha to Nebraska Avenue (which turns into County Road 725A) to the intersection of County Road 725A and 647 Avenue. North to the intersection of 647 Avenue and U. S. Highway 136, then east on U. S. Highway 136 to the intersection of U. S. Highway 136 and Nebraska Highway 67, then by and on a line following the western and northern boundaries of the Brownville City limits east to the Missouri River. This area includes the villages of Brownville and Nemaha, the Brownville State Recreation Area, and the Steamboat Trace Trail.</p>	<p>To Falls City... U.S. Highway 75 or Nebraska Highway 67 south to U.S. Highway 73 south to Falls City.</p>	<p>FALLS CITY: Falls City Middle School 1415 Morton Street.</p>
<p>12 From the Little Nemaha Bridge on Nebraska Highway 67 along the southern bank of the Little Nemaha River to the confluence of the Missouri River, along the Missouri River east and south to the northern boundary of Indian Cave State Park. Then west and south along the western boundary of Indian Cave State Park to Nebraska 64E Spur (Nemaha & Richardson Co. Line/Co. Road 720). Then west on Nebraska 64E Spur to Nebraska Highway 67 and north on Nebraska Highway 67 to the Little Nemaha River Bridge.</p>		
<p>13 E From the intersection of Nebraska Spur 64E (Nemaha & Richard Co. Line/Co. Road 720) and Nebraska Highway 67 east to, and including all of Indian Cave State Park, then south along the Missouri River (the park's eastern boundary) to the southeast corner of the park. From the southeast corner of the park by and on a line southwest to the intersection of County Road 717 and 651 Avenue, then west to Nebraska Highway 67. Then north on Nebraska Highway 67 to the intersection of Nebraska 64E Spur (Nemaha & Richardson Co. Line/Co. Road 720) and Nebraska Highway 67.</p>		
<p>13 W From the intersection of Nebraska Highway 67 and Nebraska 64E Spur (Nemaha & Richardson Co. Line/Co. Road 720) south to the intersection of Nebraska Highway 67 and County Road 717, then by and on a line northwest to the intersection of Nebraska Highway 62 and County Avenue 645, and continuing to the intersection of County Road 720 and 643 Avenue, then east to the intersection of Nebraska Highway 67 and Nebraska 64E Spur (Nemaha & Richardson Co. Line/Co. Road 720). This area includes the village of Shubert.</p>		
<p>14 From the Union Pacific Railroad tracks crossing U. S. Highway 136 east of Auburn to the intersection of U. S. Highway 136 and County Avenue 647. South on Avenue 647 to the intersection of 725A Road and 647 Avenue, south and east on Road 725A (which turns into Nebraska Street in the village of Nemaha), east and south to the intersection of Iowa Street and Nebraska Highway 67. Then south on Nebraska Highway 67 to the intersection of Nebraska 64E Spur (Nemaha & Richardson Co. Line/County Road 720) and Nebraska Highway 67. West on Nemaha & Richardson Co. Line/County Road 720 to the intersection with 643 Avenue. Then by and on a line northwest to the Union Pacific Railroad tracks at County Road 724, (West side of Howe) continuing on a line north to the intersection of the Union Pacific Railroad tracks crossing U. S. Highway 136 east of Auburn. This area includes the Unincorporated Village of Howe.</p>		
<p>15 By and on a line from the intersection of the Union Pacific Railroad tracks and U. S. Highway 136 east of Auburn, northeast to the MCI Radio Tower (which is two miles east of U. S. Highway 75 just South of Nebraska Highway 67), continuing by and on a line northeast to the northern boundary of the Peru City limits and then by and on a line with the northern boundary of the Peru City limits east to the Missouri River. Then south along the west bank of the Missouri River to the Brownville Bridge on U. S. Highway 136 and west on U. S. Highway 136 to the intersection of the Union Pacific Railroad tracks east of Auburn and U. S. Highway 136. This area includes the city of Peru and the Steamboat Trace Trail.</p>	<p>To Nebraska City... U.S. Highway 136 west to U.S. Highway 75 north to Nebraska City...or proceed north & west on Nebraska Highway 67 to U.S. Highway 75 then north to Nebraska City.</p>	<p>NEBRASKA CITY: Nebraska City Middle School 909 1st Corso.</p>

M I S S O U R I

<p>1 Area bounded to the west by the Missouri River, to the north by 152nd St. and continuing on across the High Creek Levee, to the east by Interstate 29 and to the south by the Atchison County Line. This includes the towns of Watson, Langdon and Nishnabotna. This does not include the Truck Stop Area west of I-29 on either side of U.S. route 136, which is within the city limits of Rock Port.</p>	<p>North on Route U to U.S. Route 136 east. East on Route E to State Highway 111 then north on Route 111 to U.S. Route 136 east. North on Route D to Route A, then east on Route A to Route B, then east on Route B to U.S. Highway 59, then south on U.S. Highway 59 to U.S. Highway 136 east.</p>	<p>MARYVILLE: Lamkin Gymnasium 4th St. & Ray Ave. Northwest Missouri State University.</p>
<p>2 Area bounded to the west by I-29 and includes the Interstate, to the north by the High Creek Levee, Route B, Geneva Road, and 165th St, to the east by K Avenue, Route Y, across US 136 to continue south on Route J, then Route W, and to the south by the Atchison County line. This includes the Brickyard Hill Conservation Area, the Town of Rock Port and that portion within the city limits that extends to the west of I-29 along U.S. Route 136.</p>	<p>Route B to U.S. Route 59 and then south to U.S. Route 136 east. U.S. Highway 275 south to U.S. Route 136 east. State Highway 111 north to U.S. Route 136 east. East on Route Z and Route W, then north on Route J to U.S. Route 136 east.</p>	

Reception centers

- ⋮ Food
- ⋮ Lodging
- ⋮ Assistance

Nebraska

Should an evacuation be directed for all or any part of the 10-mile emergency planning zone in Nebraska, you would evacuate to either **Falls City** or **Nebraska City**. **Specific information will be broadcast over local EAS radio and television stations.** Evacuation routes are shown on the map and listed in the accompanying protective action area information.

Reception center locations:

Falls City

Falls City Middle School
14th & Morton Streets

Nebraska City

Nebraska City Middle School
1st Corso and 9th Street

When you get to a reception center, please sign in and proceed through the system as directed, even if you don't need assistance in finding food and lodging. This will enable officials to determine what services and support you may need.



Please sign in even if you don't need assistance.

Missouri

Should an evacuation be directed for all or any part of the 10-mile emergency planning zone in Missouri, you would evacuate east to **Maryville**. **Specific information will be broadcast over local EAS radio and television stations.** The primary evacuation route will be U.S. Highway 136 East to Maryville.

Reception center location:

Maryville

Lamkin Gymnasium
4th Street & Ray Ave.
Northwest Missouri State University

Since there will be no public sheltering in Atchison County, all persons are urged to sign in at the center even if you don't need assistance in finding food and lodging. This will help officials answer inquiries about your welfare.



EVACUATION CHECKLIST

- Clothing and shoes
- Personal hygiene items (washing, shaving, dental, sanitary needs)
- Children and infant supplies (bottles, diapers, baby food, formula, toys)
- Medical needs (prescription drugs, eyeglasses, dentures, first-aid items, special diet foods)
- Bedding (sleeping bags, blankets, pillows)
- Credit cards, cash, checkbook
- Identification and important papers
- Flashlight, batteries, portable radio
- Cellular telephone and charger
- The map provided with this information for evacuation routes and instructions
- Pet owners are responsible for their pets. If you evacuate and take your pet with you, ensure you have prearranged to kennel your pet and bring along pet food, pet medicines, and pet medical records. Reception and care facilities will not allow pets within their facilities.

Personal emergency notes

Important Phone Numbers

Sheriff

School

Others

My protective action area/subarea:

My evacuation route:

My reception center:

Miscellaneous notes:

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Cooper Nuclear Station emergency planning summary

Remember, the sirens and NOAA/EAS Radios are only to alert you to tune in to your local emergency alert system radio or television station for information and instructions. **Please don't jump to conclusions.** If the sirens are sounded and radios are activated due to an emergency at Cooper Nuclear Station, evacuation may not be necessary or desirable. The first information you receive may tell you that your area is not affected or that you should stay indoors. In any event, you will be advised on what to do.

Emergency Alert System stations

NOAA Weather Station
Shubert, NE

KWN 41

NOAA Weather Radio
Frequency #5 (162.5 MHz)

Radio stations

Omaha	KFAB	1110 AM
Plattsmouth	KMMQ	1020 AM
Nebraska City	KNCY	1600 AM
Nebraska City	KBIE	103.1 FM
Falls City	KTNC	1230 AM
Falls City	KLZA	101.3 FM
Maryville	KNIM	1580 AM
Maryville	KVVL	97.1 FM
Savannah	KSJQ	92.7 FM
Shenandoah	KMA	960 AM
Shenandoah	KMA	99.1 FM
St. Joseph	KGNM	1270 AM
St. Joseph	KKJO	105.5 FM
St. Joseph	KESJ	1550 AM
St. Joseph	KFEQ	680 AM

Television stations

Omaha	KMTV	Channel 3
Omaha	WOWT	Channel 6
Omaha	KETV	Channel 7
Omaha	KPTM	Channel 42
Omaha	KXVO	Channel 15
St. Joseph	KQTV	Channel 2
St. Joseph	KNPN	Channel 26



If emergency actions for the public are required, your local Emergency Alert Station (EAS) is your best source for information. For additional information, a public information hotline for use by residents in the 10-mile EPZ will be made available by calling **1-877-275-6773.**



Protecting crops and livestock - Information for farmers, gardeners, food processors and distributors

Depending upon the amount of radioactive elements released during an accident into the atmosphere and weather conditions, people, animals, crops, land, and water near the plant could be affected. The first concern will be the condition of fresh milk from dairy animals grazing on pasture and drinking from open water sources. Sampling for contamination can occur at the farm, the transfer station, or the processing plant. If contamination is verified, State officials will determine whether to dispose of these products or to hold them until safe for consumption.

A later concern will be the possible contamination of vegetables, grains, fruits, and nuts. The severity of the impact of the contamination will depend on the time of the year. The time immediately prior to or during harvest is the most critical period. Crops will be sampled and analyzed by government officials to ensure they are safe to use.

Another concern will be the possible impact of contamination on livestock and poultry. Pasture, feed and water sources, as well as, meat and poultry products will be sampled and analyzed to ensure their safety.

Contamination of drinking water is not likely to be a problem. If it occurs it will probably affect only surface water and not ground wells or underground water sources. The safety of water

will be determined by sampling public and private sources. If land becomes contaminated, soil management techniques can be implemented to reduce contamination of crops grown on the land. The procedures recommended will depend on the severity of contamination and the specific crops grown. Consuming contaminated foods, milk and water could have a harmful, long-term effect on your health.

Emergency planning

State emergency response organizations are prepared to tell the agricultural community what actions to take in the event of an emergency.

There are two types of protective actions that will help to lessen the possibility of persons consuming contaminated food or water:

Precautionary protective actions.

Actions to avoid or reduce the potential for contamination of milk and food products. An example would be sheltering and placing dairy and meat animals on stored feed and covered water.

Emergency protective actions. Actions to isolate or contain food to prevent its introduction into commerce and to determine whether condemnation or other action is appropriate. An example, would be to restrict or withhold

(embargo) agricultural products from the marketplace by prohibiting transportation from the affected areas.

Protective actions for the food supply

The following are examples of protective actions that may be recommended to the agricultural community by State officials. All protective action recommendations will be tailored for the specific locations affected.

Milk. Remove dairy animals from pasture; shelter if possible, and provide them with protected feed and water. State officials may come to your farm to take milk, feed, and water samples for laboratory analysis to determine if contamination has occurred. If dairy products are contaminated, it may be recommended that milk and milk products be withheld from the market. It is possible, however, for milk products contaminated with certain radioactive elements to be safe for human consumption after storage for a period of time. This allows for radioactive decay to occur. You will be told by State officials what actions to take.

Fruits and vegetables. Wash, scrub, peel, or shell, locally grown nuts, fruits and vegetables, including roots and tubers, to remove surface contamination. Some methods of

food preservation that allow time for radioactive decay are effective. Contact your county extension office for more information.

Meat products. If there is a release of radioactive elements to the environment, you may be told to place meat animals on protected feed and water and, if possible, provide them with shelter. If livestock consume feed and water contaminated with radioactive elements, some of the contamination will be absorbed into their bodies and could then enter the human food supply through meat and meat products. Even if livestock consume radioactive materials, over a period of time the animals may eliminate the material or the radioactivity may decay to a point where the animal may be useable for food.

Poultry products. Poultry raised outdoors, especially those kept for egg production, should be monitored by sampling and testing to determine the presence of radioactive contamination. If contamination is verified, State officials may advise that poultry and eggs not be eaten until the contamination is eliminated or decays to a safe level.

Fish and marine life. Fish and other marine life raised in ponds may continue to be harvested unless appropriate State officials have determined through laboratory testing that they are contaminated. Samples of water, fish and marine life from larger bodies of water will also be analyzed to ensure they are safe.

Soils. If officials find the soil contaminated, certain soil management procedures can be implemented to reduce contamination to safe levels. Idling or non use of the land for a specific period of time, may be necessary. Soil removal and disposal of the soil may also be appropriate. In some situations, planting alternative crops may also be recommended. State officials will tell you what actions to take.

Grains. If grains are permitted to grow to maturity, most contamination will be removed by wind and rain. Milling or polishing will remove any remaining contamination. Sampling and laboratory testing will determine if the grain is safe to use. When harvesting, remember to store possibly contaminated and uncontaminated grain separately.

Water. Open sources of water should be protected. Cover open rain barrels, wells and tanks to prevent contamination. It is unlikely that underground water supplies will be affected. Filler pipes should be disconnected from storage containers that are supplied by runoff from roofs or other surface drain fields. This prevents contaminants from entering the storage

containers. Close water intake valves from any contaminated water source to prevent distribution (e.g., irrigation) of contaminants.

Honey. Honey and bee hives need to be sampled and tested by State officials. If radioactive contamination is found in the area, you will be instructed on actions to take.

Food processors and distributors

Radioactive contamination of milk or food products in an affected area can occur during processing, or during transportation. This results from contact with radioactive materials on the ground or in the air. Following an accident, officials may restrict the movement of food products and withhold them from the market if they are found to be contaminated. These products will not be used until they are safe for consumption, or until a decision is made to dispose of them. You will be instructed on how to safely handle and dispose of contaminated food products.

Post-emergency actions

The following are post emergency actions that can occur if data collected during the event exceed State Protective Action Guides (PAGs).

Reentry. Reentry is necessary only if an area has been evacuated. Reentry is the entry, under controlled conditions, into a restricted, contaminated area. If you have been evacuated from your area, you will be allowed to return when conditions permit. State officials will tell you through the Emergency Alert System (EAS) and media or other official means when reentry is allowed. You will receive specific instructions on routes to use and precautions to take. Temporary reentry may be allowed to perform vital activities such as milking, watering, and feeding of pets and farm animals until permanent, unrestricted return can be allowed.

Recovery. Recovery is the process of reducing radiation in the environment to acceptable levels. Following the emergency, State officials will give you instructions and assist you in decontaminating your animals, food, and property if these actions are necessary. State officials will determine whether condemnation and disposal of food or other products is appropriate.

Relocation. Relocation is the removal or continued exclusion of people (households) and businesses from contaminated areas to avoid chronic radiation exposure.

Return. Return is the reoccupation of areas cleared for unrestricted residence/use by previously evacuated or relocated populations.

Emergency information

Your County Extension Office will provide you with information for the protection of agricultural products. Local radio, television, newspaper, or telephone may be used.

County Extension Offices in the 10-mile Emergency Planning Zone (EPZ) are:

**Atchison County, MO
(660) 744-6231**

**Nemaha County, NE
(402) 274-4755**

**Richardson County, NE
(402) 245-4324**

Stay in touch with NPPD through...

 www.nppd.com

 [Facebook](https://www.facebook.com/nebraskapublicpowerdistrict) <https://www.facebook.com/nebraskapublicpowerdistrict>

 [Twitter](https://www.twitter.com/nppdnews) <https://www.twitter.com/nppdnews>

 [YouTube](http://www.youtube.com/nppdvtv) <http://www.youtube.com/nppdvtv>

Or contact our Call Center at... 1-877-275-6773



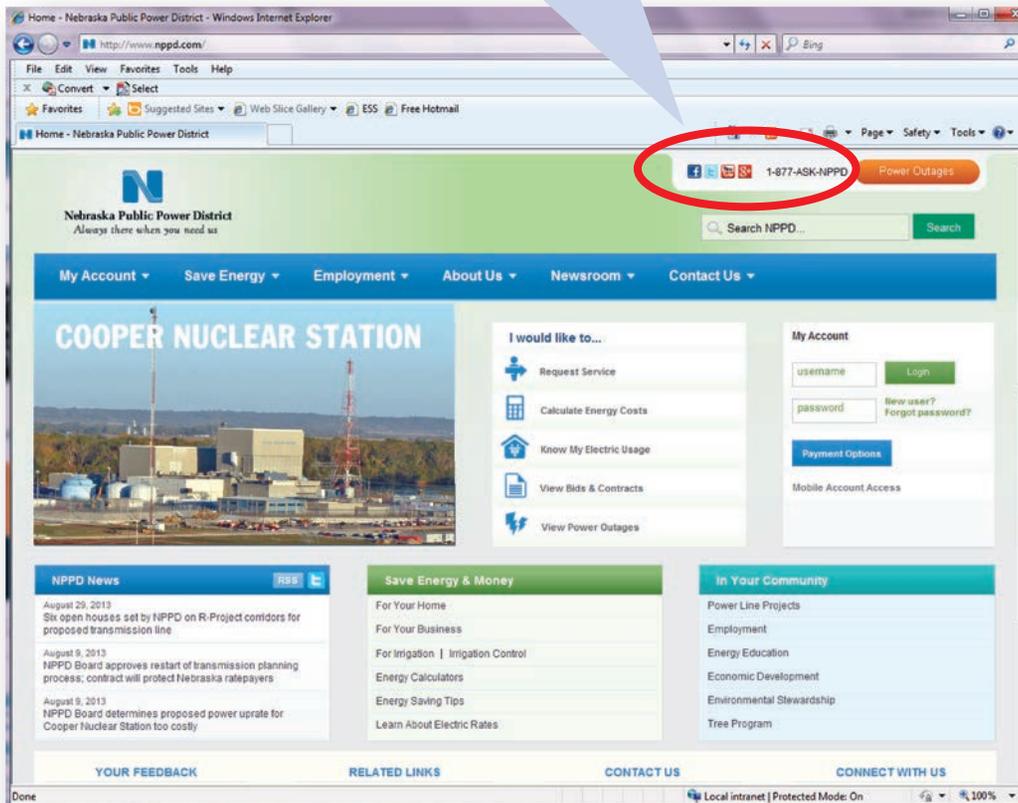
Should an emergency ever happen at Cooper Nuclear Station, a public information hotline will be established through NPPD's call center to take your questions and address any concerns you may have.



Knowledgeable and caring representatives will respond to your call 24 hours a day, seven days a week.

Local, state and national coverage

NPPD will provide up-to-date information about an emergency to various media outlets for sharing with their audiences, whether radio, television, or the Internet. Press conferences will also be held to share information with reporters who, in turn, will inform you, the public.





NEBRASKA
 EMERGENCY MANAGEMENT AGENCY

Good Life. Great Strength.



Promoting safer, more resilient communities with the capacity to recover from hazards and disasters.

Nebraskans Serving Nebraskans

2433 N.W. 24th St., Lincoln, NE 68524
 402-471-7421

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-  @NEMApge
-  @NEMAtweets
-  @TheNEMAtube
-  @NEMApics

Nemaha County Emergency Management Agency

works year round to train and prepare for Radiological Emergency Response in coordination with the Cooper Nuclear Station by participating in their scheduled drills and hosting our own continuing education. The Emergency Management Agency periodically reviews and makes revisions and updates to the Radiological Emergency Response Plan and the Local Emergency Response Plan with a major revision every 5 years.

Within Nemaha County there is a Decontamination Unit which is fully stocked with supplies and the necessary emergency equipment for CBRNE (Chemical Biological Radiological Nuclear Explosive) incidents. Nemaha County Emergency Management Agency conducts frequent evaluated and unevaluated drills and training sessions with the local volunteers on the Decontamination Unit.

Nemaha County is in the process of moving forward with social media by using facebook "Nemaha County Emergency Management" and the Citizen Alert Notification system "Everbridge". To learn more about and access the registration page for the Citizen Alert Notification system "Everbridge" go to the Nemaha County webpage at <http://www.nemahacounty.ne.gov/> and click on the Sign Up icon as shown below.

Nemaha County Emergency Management Agency Contact Information

601 "J" Street
Auburn, NE 68305
402-274-2552

Renee Critser, Director
nemahaema@windstream.net



Welcome to
Nemaha County
Nebraska



Citizen Alert

Notification Sign Up





Richardson County National Oceanic & Atmospheric Administration (NOAA)/Emergency Alert System (EAS) Radio Information

Having a NOAA/EAS radio is the best way to stay up to date and informed with both weather and non-weather related events. Correctly programmed NOAA/EAS radios will only sound an alert when an event is taking place within Richardson County. If you hear an alert on your radio, please follow the directions given. These alerts are being sent out by the National Weather Service (NWS). Both Cooper Nuclear Station and Richardson County Emergency Management can request the NWS to send out messages about non-weather related emergencies.



The NWS sends out three different alerts for weather: **WATCH**, **ADVISORY**, and **WARNING**.

- A **WATCH** means a “chance” this condition will happen and usually covers a large geographical area for a lengthy time period.
- An **ADVISORY** means that an expected weather condition has a pretty good chance of occurring, or even a likely chance of occurring. Typically an advisory is used for “less” severe type of weather conditions like wind or fog.
- A **WARNING** means that dangerous weather is already occurring or is likely to occur and to take proper protective measures.

The NOAA/EAS radio system is also used for non-weather related **WARNINGS**, such as Radiological Releases, Chemical Releases, or other Hazardous events. If your NOAA/EAS radio sounds an alert, please listen to your radio closely. The radio message will give you detailed information on what to do to protect yourself in either an event at Cooper Nuclear Station, or an event within Richardson County.

Outdoor Warning Sirens are also used for both NOAA/NWS and EAS alerts. These sirens are meant to alert people that are outdoors that an event is already occurring or is likely to occur. If you hear a warning siren sound, please seek shelter immediately and listen for instructions on your NOAA/EAS radio.

Residents in Richardson County should contact your Emergency Management Agency for information about NOAA/EAS radios.

The NOAA/EAS Radio Program Code for Richardson County is **031147**

Richardson County Emergency Management Contact Information

Richardson County Courthouse
1700 Stone Street, Room 015
Falls City, NE 68355
(402)-245-2446 or (402)-245-3054
EMA@richardson-county.us

Brian Kirkendall
Director

Tylene Windle
Deputy Director



facebook.com/RichardsonCoEMA
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GET SOCIAL WITH S.E.M.A AND STAY IN TOUCH...

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 COMING SOON
 SEMA.DPS.MO.GOV

**STATE EMERGENCY
 MANAGEMENT AGENCY**
 2302 MILITIA DRIVE
 P.O. BOX 116
 JEFFERSON CITY, MO 65102
 PHONE: (573) 526-9100
 FAX: (573) 634-7966



OUR MISSION:
 THE STATE EMERGENCY MANAGEMENT AGENCY'S MISSION IS TO HELP OUR FELLOW MISSOURIANS PREPARE FOR, RESPOND TO AND RECOVER FROM ALL EMERGENCIES. EACH STEP WILL BE GUIDED BY OUR CORE VALUES OF RESPECT, INTEGRITY, TRUST, HONESTY AND COMPASSION.

**WE HAVE
BEEN
NOTIFIED**

If you have been notified of an emergency, place this card in a front window or window facing driveway where emergency workers can see it.

EMERGENCY MANAGEMENT

ATCHISON COUNTY, MO

911

MISSION

It is the mission of the Atchison County 911/Emergency Management Office to protect the lives and property of all citizens of Atchison County when an emergency or disaster threatens public safety.

NOTIFICATION TOOLS

The Atchison County 911/Emergency Management Office uses a variety of tools to notify the public in the event of an emergency. Using one or all of these tools will provide you with the most up-to-date information possible.

 Sign up for emergency text notifications through **TextCaster**: <http://my.textcaster.com/ServePopup.aspx?id=1764>



Follow us on **facebook**: <http://facebook.com/ac911>



Follow us on **twitter**: <http://www.twitter.com/AtchisonCounty>

Atchison County Emergency Management Contact Information

472 Rainbow Drive
Rock Port, MO 64482
660-744-6308
660-744-6606
660-744-6674 FAX

Rhonda Wiley, Director
ac911@rpt.coop

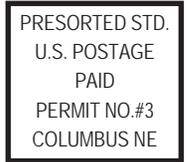
Mark Manchester, Deputy Director
acema2@rpt.coop





Nebraska Public Power District

Corporate Communication Department
P.O. Box 499
Columbus, NE 68602-0499



Revised 2019

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IMPORTANT INFORMATION - DO NOT DISCARD