

# **EMERGENCY INSTRUCTIONS**

## ***ARKANSAS NUCLEAR ONE***

***Effective November 1, 2024***



# PURPOSE OF THIS BOOKLET

This information booklet is provided for your use in an emergency. While the information contained in this booklet is mainly for use should an emergency occur at Arkansas Nuclear One, much of the material may be useful in other emergencies such as chemical spills, tornados or floods. This booklet was prepared by the Arkansas Department of Health, Nuclear Planning and Response Program in conjunction with Entergy Operations, Inc. and officials of Conway, Johnson, Logan, Pope and Yell Counties. It is suggested that you keep this booklet in a safe, handy location for quick reference during an emergency. This EIB is effective until Nov. 1, 2025 or until replaced or supplemented by a new document.

## TABLE OF CONTENTS EMERGENCY INSTRUCTIONS

WHAT IS IPAWS/WEA SYSTEM?.....	1
WHAT IS AN EMERGENCY? .....	1
HOW WILL I BE NOTIFIED? .....	2
WHICH RADIO STATIONS? .....	3
WHAT ABOUT MY TELEPHONE?.....	3
WHERE CAN I GET MORE INFORMATION? .....	4
SEVERE WEATHER PROTECTION .....	4
HOW DOES MY TONE ALERT RADIO WORK?.....	5
WHAT SHOULD I DO?.....	6
WHAT SHALL I TAKE?.....	6
WHAT ABOUT SHELTERING/STAYING INDOORS?.....	7
NEED SPECIAL HELP? .....	7
WHAT ABOUT SCHOOLS?.....	8
EPZ MAP.....	9
EVACUATION ROUTES .....	10
ADDRESSES OF DEDICATED RECEPTION CENTERS.....	12
RADIATION/HEALTH EFFECTS.....	13
HOW A NUCLEAR PLANT WORKS .....	14
WHAT ABOUT MY PETS?.....	16
DEFINITIONS.....	16
FARM AND GARDEN INFORMATION .....	18
SPECIAL NEEDS INFORMATION FORM.....	BACK COVER

# COMING IN 2025

## IPAWS/WEA SYSTEM

What is IPAWS/WEA? The Integrated Public Alert & Warning System (IPAWS) is FEMA's national system for local alerting that provides authenticated emergency and life-saving information to the public through mobile phones using Wireless Emergency Alerts, to radio and television via the Emergency Alert System, and on the National Oceanic and Atmospheric Administration's Weather Radio.

### WHAT IS AN EMERGENCY?

Many things could cause an emergency at a nuclear power plant. State and local officials will be told about any emergency that could cause the nuclear plant to become unsafe. There are four classes of emergencies at nuclear power plants:

#### **Notification of Unusual Event:**

This is the least serious emergency class. It means that something out of the ordinary has happened. People living in the area should not have to take any action.

#### **Alert:**

This class means plant safety could become a problem. State and local officials will go to their emergency centers to follow the situation. The general public should not have to take any action.

#### **Site Area Emergency:**

This class means the public might be affected. You might hear the Emergency Siren Warning System. Tune into your local radio station for information. State and local officials will take action to protect those living in the area.

#### **General Emergency:**

This is the most serious emergency class. State and local officials will take action to protect people in the area. Stay tuned to your local radio station for instructions.

## HOW WILL I BE NOTIFIED?

Within 15 minutes of the time an emergency is declared at Arkansas Nuclear One, Entergy Operations must notify state and local authorities.

State Officials can then notify the public of an emergency within 15 minutes by use of the Emergency Warning System.

The IPAWS/WEA system sends a notification to all enabled smartphones and other devices in the area. It is necessary that you have enabled your device to receive State and Local emergency notifications. The notification will provide a link to the Arkansas Department of Health emergency information website. Simply click on the link for emergency messages.

In addition, you will hear a steady siren signal lasting about three (3) minutes. If you have a Tone Alert Radio, it will also be activated and provide emergency instructions. **STAY CALM!** When you hear the sirens, tune to one of the local radio stations listed on page 3 of this booklet, tune in to NOAA Weather Radio, or go to the website <https://nprp.ar.gov>.

Sirens are tested each Wednesday at noon, excluding holidays or when severe weather is present.

To view the Arkansas Department of Health's Emergency Instruction Booklet on-line, in English or Spanish, simply scan the QR Code below with your smartphone.



English EIB



Spanish EIB

## WHICH STATIONS?

NOTE: KXRJ is available for emergency messaging 24-hours a day. The other stations will air emergency messages as soon as the stations can be staffed during non-working hours. All stations are available during normal working hours.

### AM STATIONS

KCAB .....	980 .....	DARDANELLE
(translator 97.1)		
KARV.....	610 .....	RUSSELLVILLE
KWXT.....	1490 .....	DARDANELLE

### FM STATIONS

KMTC .....	91.1 .....	RUSSELLVILLE
KCJC .....	102.3 .....	DARDANELLE
KXRJ.....	91.9 .....	RUSSELLVILLE
KWKK .....	100.9 .....	RUSSELLVILLE
KYEL.....	105.5 .....	DANVILLE
KASR.....	99.3 .....	ATKINS
KARV.....	101.3 .....	OLA
KXIO.....	106.9 .....	CLARKSVILLE

Tone Alert Radio Frequency 162.525 .....

	RUSSELLVILLE
--	--------------

## WHAT ABOUT MY TELEPHONE?

PLEASE avoid using the telephone, if possible. All lines should be kept clear for emergency calls. You should use your telephone only to report medical, fire, or other extreme emergencies. The warning sirens, local radio stations and Tone Alert radio are designed to keep you informed during an emergency.

## EVACUATION ROUTE SIGNS

Signs marking designated evacuation routes are in place along state highways. These indicate the direction to the Designated Reception Centers where you should report in the event of an evacuation resulting from an emergency involving Arkansas Nuclear One.

## **WHERE CAN I GET MORE INFORMATION?**

Please contact the Arkansas Department of Health from 8:00 a.m. - 4:30 p.m. Monday through Friday.

**Arkansas Department of Health  
Nuclear Planning and Response Program  
P.O. Box 1749  
Russellville, AR 72811-1749  
Phone: 479-968-7171 or  
1-800-422-6630 (Toll Free)  
Email: [arkansasnuclearplanning@arkansas.gov](mailto:arkansasnuclearplanning@arkansas.gov)**

The deaf and hearing impaired who use TDD equipment may reach us by calling 711. **To report Siren Warning System problems, Tone Alert radio problems, or any urgent concern, you may call these numbers 24 hours a day.**

## **SEVERE WEATHER PROTECTION**

The siren system around Arkansas Nuclear One can also be used to alert the public of severe weather. This can be done by local officials if necessary. If a weather warning is issued, stay away from windows, doors, and outside walls. Go to the basement or interior of the house. You may want to get under something sturdy and cover your head. If you're in a mobile home or a car, it is safer to leave and find a sturdier structure. If

no shelter is available, then lie flat in a ditch or ravine and cover your head. If a flash flood threatens, avoid areas that are subject to sudden flooding. Do not attempt to cross a flowing stream where water is above your knees. Do not attempt to drive over a flooded road since you could become stranded and trapped. If your vehicle stalls, abandon it immediately and seek higher ground. People often drown while trying to rescue their car.

# **HOW DOES MY TONE ALERT RADIO WORK? & WHERE DO I GET ONE?**

Persons within ten (10) miles of Arkansas Nuclear One are notified of an emergency by siren and Tone Alert radio. Persons who live in an area where there are no sirens, or are hearing impaired, or require special notification are provided with these receivers FREE of charge. The system is operated in cooperation with the National Weather Service. This system is tested every Wednesday between 11:00 a.m. and 12:00 noon. If inclement weather persists, then the testing will be performed the next clear day.

All Tone Alert radios issued by this office have a battery backup feature which allows the user to install a battery. This will allow the radio to work during a power outage. You may install a battery if you desire.

**If you think you are eligible for a FREE radio or should the radio you have fail to operate properly, contact:**

**Arkansas Department of Health  
Nuclear Planning and Response Program  
P.O. Box 1749  
Russellville, Arkansas 72811  
Phone: 479-968-7171**

**TDD 711**

**Email: [arkansasnuclearplanning@arkansas.gov](mailto:arkansasnuclearplanning@arkansas.gov)**

**To report Siren Warning system problems, Tone Alert radio problems, or any urgent concern, you may call these numbers 24 hours a day.**

Your Tone Alert radio is designed to receive weather information from the National Weather Service 24 hours a day. Weather information for the River Valley area will be broadcast from the Mt. Nebo transmitter on frequency 162.525 Mhz. In addition to weather information, emergency information concerning Arkansas Nuclear One will also be broadcast on this frequency.

Operating instructions for your weather radio are included with each radio issued. Should you need further assistance with your radio, you may contact the Nuclear Planning and Response Program.

## WHAT SHOULD I DO?

Look at the area map in this booklet. Determine to which care center you would go and how to get there. If an evacuation begins, don't panic and don't rush. You will have plenty of time. When you leave home, tear off the "NOTIFIED" sign on the back cover of this booklet. Attach the sign to the front of your home so officials will know you have evacuated.

As you leave the area, tell a neighbor about the evacuation. He/She may not know about the emergency or may need a ride to a reception center. You may need to stay at the center for two (2) or three (3) days. This will depend on conditions at the plant.

Continue to listen to the radio for current information.

## WHAT SHALL I TAKE?

(√)

- |   |   |
|---|---|
| <input type="checkbox"/> Change of Clothing         | <input type="checkbox"/> Eyeglasses                   |
| <input type="checkbox"/> Baby supplies              | <input type="checkbox"/> Health insurance information |
| <input type="checkbox"/> Blankets and pillows       | <input type="checkbox"/> Check book/Credit cards      |
| <input type="checkbox"/> Flashlight and batteries   | <input type="checkbox"/> Towels and washcloths        |
| <input type="checkbox"/> Portable radio             | <input type="checkbox"/> Sanitary supplies            |
| <input type="checkbox"/> Medications                | <input type="checkbox"/> Personal identification      |
| <input type="checkbox"/> Soap and shaving equipment |   |

## FAMILY PREPAREDNESS

**Your family may not be together when an emergency occurs, so it is important to have a family plan. Your plan should include how you will contact each other if you are separated during an emergency. For example, have each family member contact other family members who live outside the Emergency Planning Zone (EPZ). Everyone must know the name, address, and phone number of the contact. You may have trouble getting through, so be patient.**

**Have two predetermined locations outside the Emergency Planning Zone (EPZ) where your family can reunite, if separated. For additional planning information, you may refer to [www.ready.gov](http://www.ready.gov).**



## WHAT ABOUT SHELTERING?

Sheltering means to stay indoors. Close all doors and windows. Turn off sources of outside air. Close the fireplace flue if not in use. Remain indoors until told it is safe to go out.

**Use the telephone only for medical, fire, or other extreme emergencies!**

If traveling in a vehicle, close

windows, air vents, and put the air conditioner on the maximum setting if needed.

Always listen to your local radio station or Tone Alert radio for further instructions.

## WHAT ABOUT STAYING INDOORS?

Staying indoors is very similar to sheltering. However, there are some important differences. Because the mid-summer heat in Arkansas can often climb well above 100 degrees, closing off your home without air conditioning could present more of a health hazard than the one presented in a release at ANO. Therefore, staying indoors refers to just that, staying indoors but with your air conditioning or heat running to keep you cool in the summer or warm on a cold January day. The filters in your home's heat and air system will also act to filter some of the radioactive particulates that might be in the air in your area because of a release at the nuclear plant. The Department of Health believes this to be a logical and safe alternative to sheltering during weather extremes such as heat or snow and ice.

## NEED SPECIAL HELP?

If you think you or your organization might need special help in an emergency such as special notification or transportation, please fill out the "SPECIAL NEEDS INFORMATION" form in the back of this booklet and mail it to us free of charge.

**Arkansas Department of Health  
Nuclear Planning & Response Program**

**Phone 479-968-7171 or 1-800-422-6630  
Toll Free TDD 711**

**P.O. Box 1749**

**Russellville, AR 72811**

**Email: [arkansasnuclearplanning@arkansas.gov](mailto:arkansasnuclearplanning@arkansas.gov)**

**Office Hours: 8 a.m. – 4:30 p.m. Monday - Friday**

**To report Siren Warning System problems, Tone Alert radio problems, or any urgent concern, you may call these numbers 24 hours a day.**

## WHAT ABOUT SCHOOLS?

Because evacuation of school-age children is of the utmost importance, schools will be notified before the general public. Parents should not attempt to pick up their children at the schools since this will create a traffic problem that could cause a delay in the evacuation of the schools. The students will be taken to a reception center. Each school will be evacuated to a specific reception center. Once children are registered at the reception center, they may leave with a parent or legal guardian. If it is necessary, students will be monitored for radioactive contamination. To determine the reception center to which each school would evacuate, please see the chart below. All reception centers are located at schools.\*

### WHERE WILL STUDENTS GO?

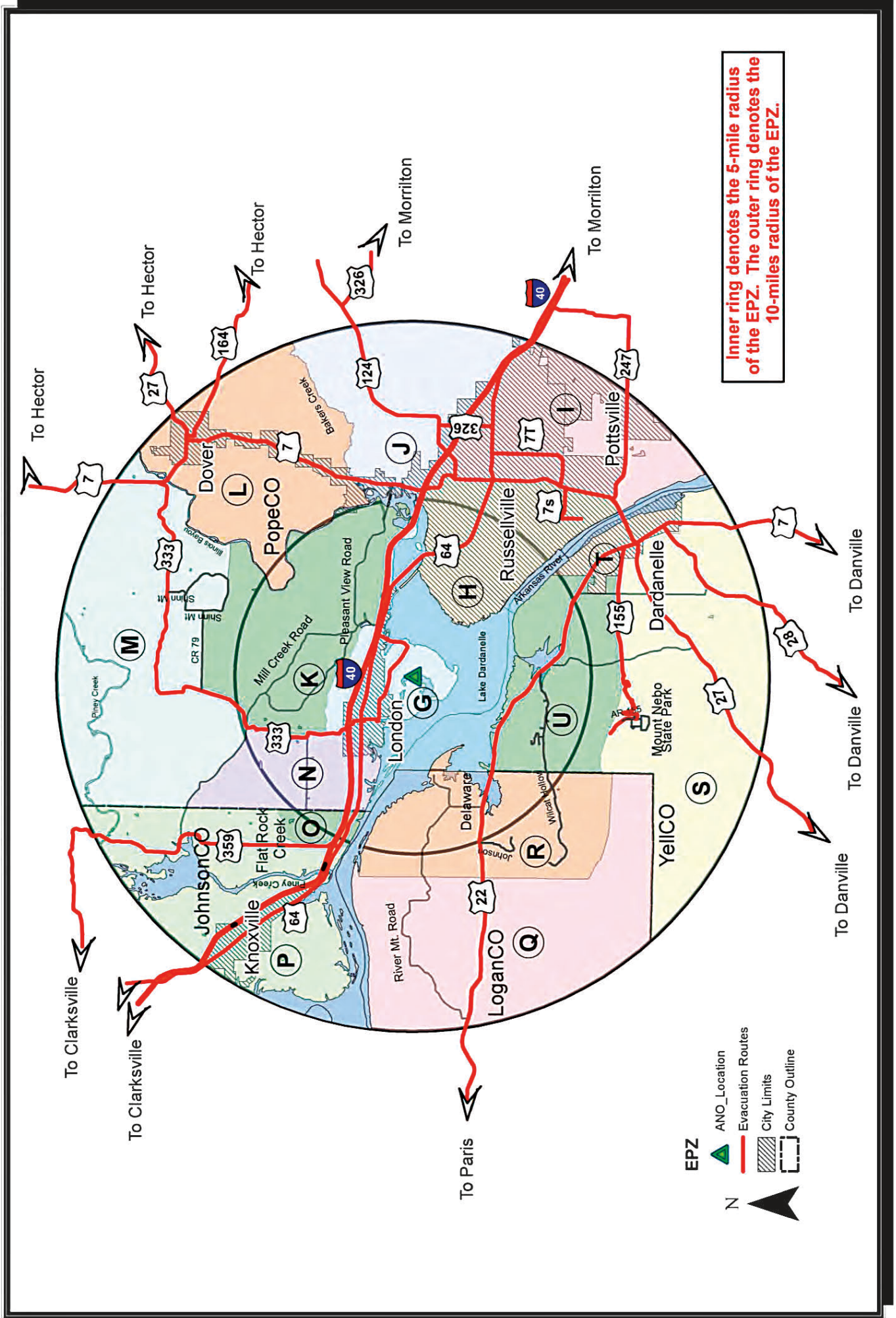
SCHOOL	ZONE	RECEPTION CENTER
London Elementary	G	Clarksville Jr. H.S.
Russellville Jr. High Schools	H	Morrilton H.S.
Rsvl. Middle School Complex	H	Morrilton H.S
Sequoyah Elementary	H	Morrilton H.S
Dwight Elementary	H	Morrilton H.S
Oakland Heights Elementary	I	Morrilton H.S
Crawford Elementary	I	Morrilton H.S
Russellville High School	I	Morrilton H.S
Center Valley Elementary	J	Morrilton H.S
Russellville Area Vo-Tech	I	Morrilton H.S
Friendship School	I	Morrilton H.S
Dardanelle Schools	T	Danville H.S.
Dover Schools	L	Hector H.S.

In the event of an emergency, please **do not** attempt to pick up your children at school.

***SEE PAGE 12 FOR DESIGNATED RECEPTION CENTER ADDRESSES***

# EMERGENCY PLANNING ZONE

## 10 MILE RADIUS AND 5 MILE RADIUS



# ZONES AND RECEPTION CENTERS

**NOTE: Personnel will be in place at each reception center host city to direct evacuees to their designated reception centers.**

**ZONE "G"** – The area within approximately two miles of Arkansas Nuclear One. This includes Lake Dardanelle, the ANO peninsula, Mill Creek, 40 Acre Rock and London Communities. **Residents of this zone should proceed to the designated reception center at Hector High School.** Persons living in Zone G should take Highway 64 or Highway 333 to Highway 7, then Highway 7 to Dover, then Highway 27 to Hector.

**ZONE "H"** – Russellville residents west of Arkansas Avenue and south of I-40. This includes Norristown and the Dardanelle State Park area. **Residents in this zone should proceed to the designated reception center at Morrilton High School.** Persons living in Zone H should take I-40 or Highway 64 east to Morrilton or Highway 247 to Highway 64 then east to Morrilton.

**ZONE "I"** – Russellville residents south of I-40 and east of Arkansas Avenue. This includes the South New Hope Community. **Residents in this zone should proceed to the designated reception center at Morrilton High School.** Persons living in Zone I should take I-40 or Highway 64 east to Morrilton or Highway 247 to Highway 64 then east to Morrilton.

**ZONE "J"** – Pope County residents north of I-40, south of Bakers Creek and east of the Illinois Bayou. **Residents in this zone should proceed to the designated reception center at Morrilton High School.** Persons living in Zone J take I-40 or Highway 64 east to Morrilton, or Highway 124 to Highway 326 East to Hwy 105 to Atkins, then east on I-40 or Highway 64 to Morrilton.

**ZONE "K"** – Pope County residents north of Highway 64, west of the Illinois Bayou, east and south of Highway 333, and south of county road 79(also known as Shinn Mountain Road) and county road 141(also known as Lower Shinn Mountain Road). **Residents in this zone should proceed to the designated reception center at Hector High School.** Persons living in Zone K should take I-40, Highway 333 or Pleasant View Road to Highway 7 then Highway 7 to Dover, then Highway 27 to Hector.

**ZONE "L"** – Pope County residents east of the Illinois Bayou and north of Bakers Creek. This includes Dover and the Linker Mountain Community. **Residents in this zone should proceed to the designated reception center at Hector High School.** Persons living in Zone L should take Highway 7 to Dover then Highway 27 to Hector, or Highway 164 to Highway 105 then take Highway 27 north to Hector.

**ZONE "M"** – Pope County residents north of Hickeytown Road, east of Highway 333 and north of county road 79(also known as Shinn Mountain Road) and county road 141(also known as Lower Shinn Mountain Road). This includes the Augsburg, Rushing and North New Hope Communities. **Residents in this zone should proceed to the designated reception center at Hector High School.** Persons living in Zone M should take Highway 333 to Highway 7 to Dover, then Highway 27 to Hector.

**SEE PAGE 12 FOR DESIGNATED RECEPTION CENTER ADDRESSES**

**ZONE "N"** – Pope County residents south of Hickeytown Road, west of Highway 333 and north of Lake Dardanelle. **Residents in this zone should proceed to the designated reception center at Hector High School.** Persons living in Zone N should take Highway 333 to Highway 7 to Dover then Highway 27 to Hector.

**ZONE "O"** – Johnson County residents east of Highway 359 and south of Flat Rock Creek. **Residents in this zone should proceed to the designated reception center at Clarksville Junior High School.** Persons living in Zone O should take Highway 64, I-40 or take Highway 359 to Highway 64 west to Clarksville.

**ZONE "P"** – Johnson County residents north of Flat Rock Creek and west of Highway 359. This includes the Piney, Piney Bay, Knoxville and Hickeytown Communities. **Residents in this zone should proceed to the designated reception center at Clarksville Junior High School.** Persons living in Zone P should take Highway 64, I-40 or Highway 359 to Highway 64 west to Clarksville.

**ZONE "Q"** – Logan County residents residing between Delaware and New Blaine. This includes the New Liberty, West River Mountain and Nichols Lane area. **Residents in this zone should proceed to the designated reception center at Paris High School.** Persons living in Zone Q should take Highway 22 west to Paris.

**ZONE "R"** – Logan County residents within an area approximately two miles west of the Logan - Yell county line. This includes Wildcat Hollow, Delaware, Delaware Lake Area, River Mountain Road east of Flurry Road and Highway 22 east of Johnson Lane. **Residents in this zone should proceed to the designated reception center at Paris High School.** Persons living in Zone R should take Highway 22 west to Paris.

**ZONE "S"** – Yell County residents south of Mt. Nebo Road and west of the Dardanelle city limits. This includes the Slo Fork and Sulphur Springs areas. **Residents in this zone should proceed to the designated reception center at Danville High School.** Persons living in Zone S should take Highway 27 to Danville or Highway 7 to Ola, then Highway 10 west to Danville; or Highway 28 to Mt. George, then Highway 154 to Highway 27 to Danville.

**ZONE "T"** – All residents of the city of Dardanelle. **Residents in this zone should proceed to the designated reception center at Danville High School.** Persons living in Zone T should take Highway 7 south to Ola, then Highway 10 west to Danville.

**ZONE "U"** – Yell County residents north of Mt. Nebo Road and west of the Dardanelle City limits. This includes Mt. Nebo, Haney Hollow, Wildcat Hollow in Yell County and the Lake Dardanelle State Park area. **Residents in this zone should proceed to the designated reception center at Danville High School.** Persons living in Zone U should take Highway 22 or Highway 155 east to Highway 27, then Highway 27 to Danville.

**NOTE: Personnel will be in place at each reception center host city to direct evacuees to their designated reception centers.**

## **ADDRESSES OF DESIGNATED RECEPTION CENTERS**

CLARKSVILLE JR. HIGH SCHOOL  
1701 W. CLARK RD.  
CLARKSVILLE, AR 72830

DANVILLE HIGH SCHOOL  
E. 11th STREET  
DANVILLE, AR 72833

HECTOR HIGH SCHOOL  
11601 AR-27  
HECTOR, AR 72843

MORRILTON HIGH SCHOOL  
1310 POOR FARM RD.  
MORRILTON, AR 72110

PARIS HIGH SCHOOL  
2000 E. WOOD ST.  
PARIS, AR 72855



**WATCH FOR EVACUATION ROUTE SIGNS, LIKE THE ONE PICTURED HERE, TO HELP YOU REACH A DEDICATED RECEPTION CENTER.**

## RADIATION AND ITS EFFECTS

**Radioactivity** is the property possessed by some elements that spontaneously give off energy in the form of waves or particles. Radiation may be alpha, beta, or gamma.

• Alpha radiation is the least penetrating type. It can be stopped by a sheet of paper.

- Beta radiation is emitted from the nucleus of an atom during fission. It can be stopped by thick cardboard.
- Gamma radiation is electromagnetic waves emitted from a nucleus and is essentially the same as X-rays. It can be stopped by heavy shielding such as lead or concrete.

Sources and amounts of naturally occurring radiation (Measured in Millirems per year)	
Air	5
The Earth	15
Food	25
Cosmic Rays	45
<u>Building Materials</u>	
Living in a wood house	35
Living in a brick house	45
Living in a stone house	50

Sources and amounts of man-made radiation (Measured in Millirems)	
<u>Dental X-Rays</u>	
Panoramic	300-400
Bitewing	300
Coast-to-Coast Airline Flight	5
Color Television	1 per year
Living Next to ANO	less than 1 per year

## HEALTH EFFECTS

Radiation is a normal part of our everyday lives. It is used in medicine and dentistry for diagnosis and treatment in the form of X-rays and gamma rays. Naturally occurring radioactivity is found in the soil, water, air, and building materials.

In Arkansas, the average radiation exposure from naturally occurring and man-made radiation is up to 180 millirem\* per year. Most studies indicate that radiation exposure of up to

several thousand millirem per year result in no measurable health effect.

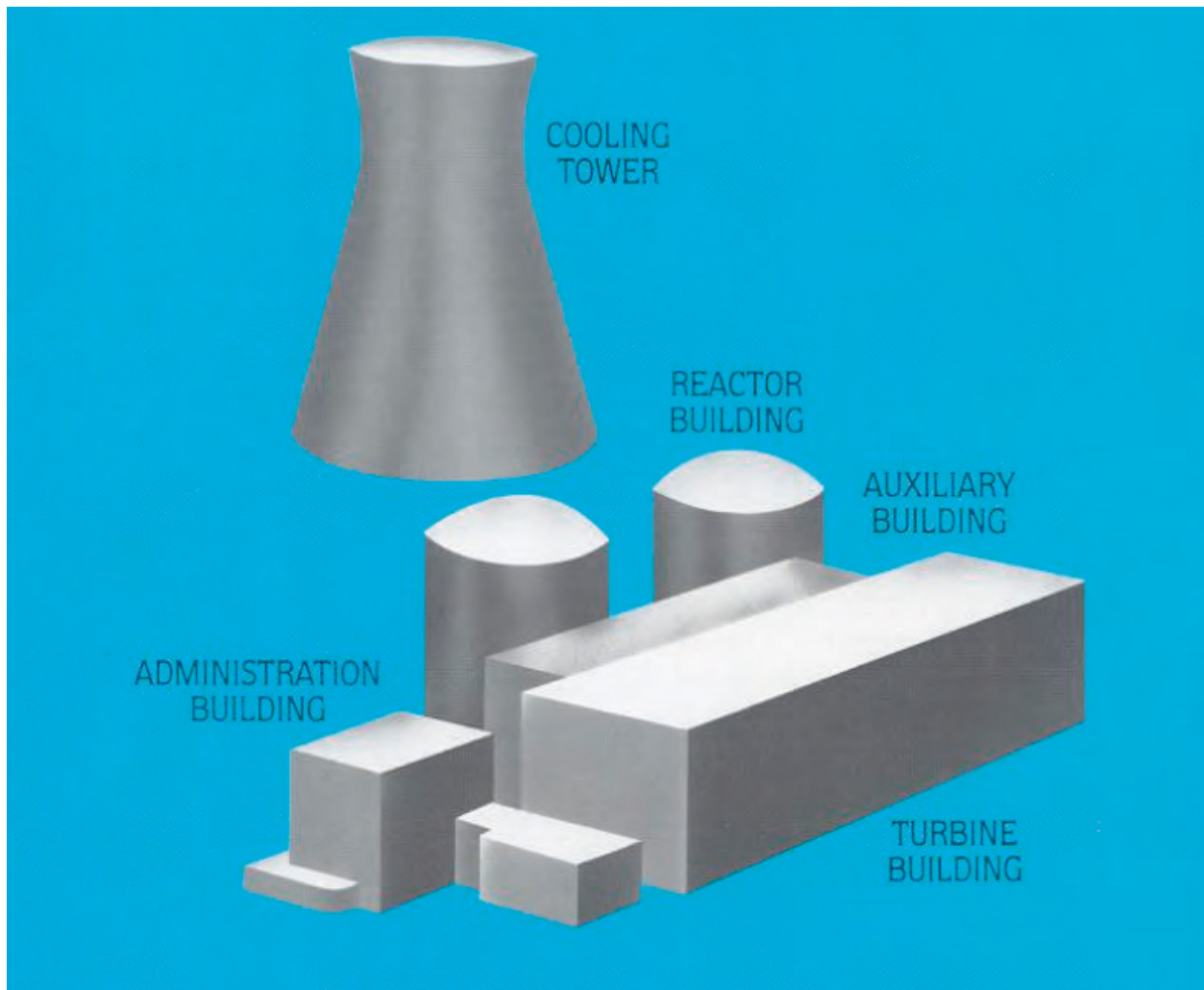
In the event of an accidental release of radioactivity from Arkansas Nuclear One, Entergy Operations, Inc., state and local government emergency plans are designed to minimize the radiation exposure to the public. This is accomplished by the use of sheltering, staying indoors or evacuation as possible protective actions.

\*This does not include the contribution of naturally occurring Radon gas, which is currently being studied.

# HOW A NUCLEAR PLANT WORKS

The uranium fuel in a nuclear reactor produces heat. Primary coolant water circulates through the reactor and picks up heat as it flows around the nuclear fuel. The heated water is pumped into a steam generator where the primary coolant gives off heat to water in a separate secondary system before it is returned to the reactor to be heated again.

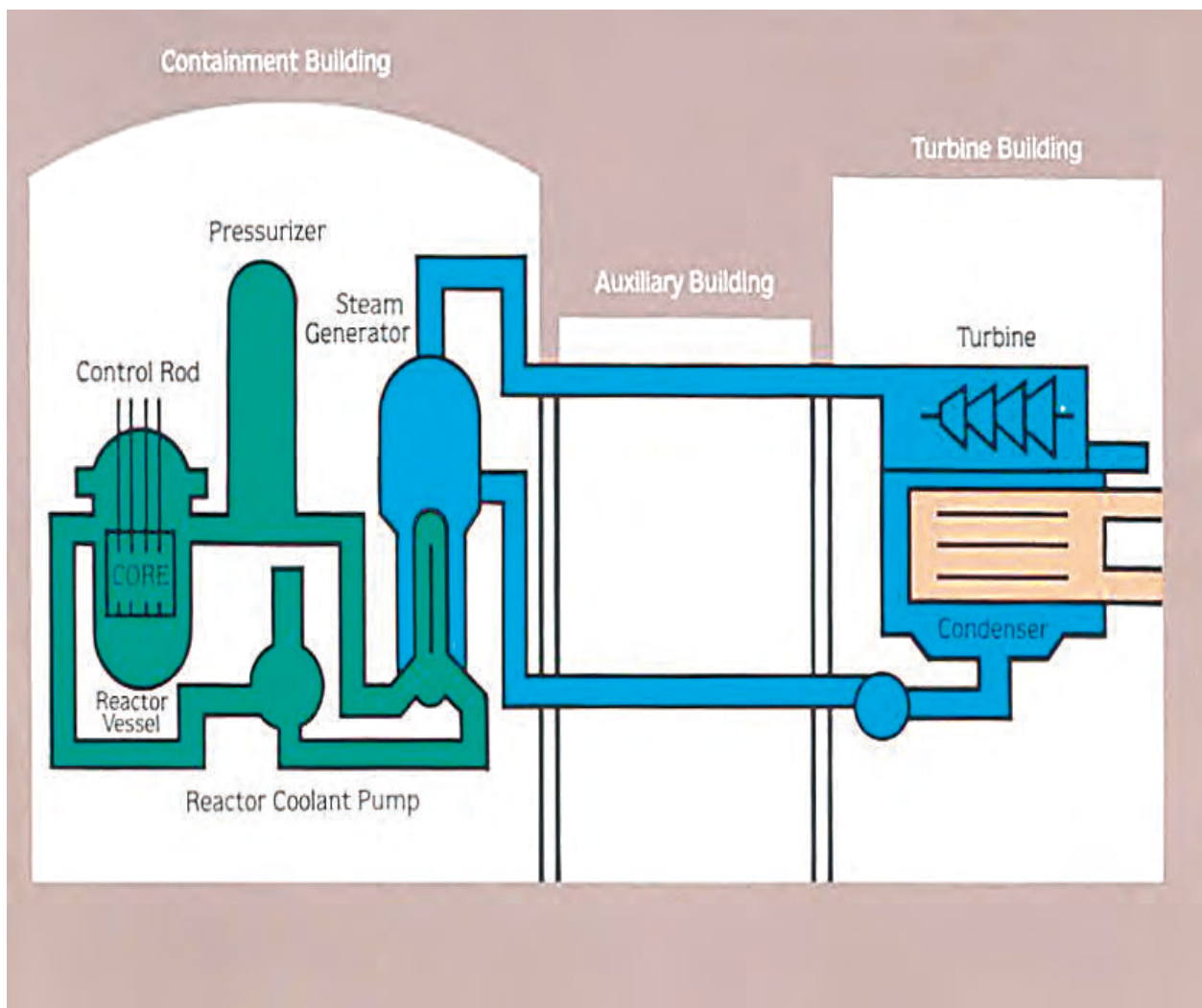
The secondary water in the steam generator is converted to steam which is routed to a turbine. The steam rotates the turbine which is connected to an electric generator.





## PLANT WORKS (Continued from Page 14)

After the steam leaves the turbine, it is condensed into water by passing over tubes containing cool lake water and is returned to the steam generator to be heated into steam again. The lake water that is used to condense the steam to water is warmed slightly. It is returned to the surface of the lake, where its heat is given up to the atmosphere. Unit 2 uses the cooling tower to dissipate excess heat in the form of water vapor from the condenser cycle.



## WHAT ABOUT MY PETS?

For reasons of health and safety, it is strongly recommended that pets not be brought to any reception center, however, it may be necessary under certain circumstances to do so. To facilitate the reasonable accommodation of domesticated animals, measures designed to assure a safe stay at the center are required. Domesticated pets are defined as dogs, cats, birds, rabbits, rodents or turtles or animals traditionally kept in the home for pleasure rather than for commercial purposes and can travel in commercial carriers, and be housed in temporary facilities. Reptiles (except turtles), livestock and animals classified as “vicious animals” will not be accepted.

While pets will not be allowed inside the actual reception center, limited facilities will be provided for the housing of your domesticated animals nearby. Animals should be transported in and remain housed in, portable containment devices while at the reception center pet facility. Care of these animals, such as providing food and water, will be the responsibility of the owner. Veterinary care needed by individual animals will have to be provided by the pet’s owner. Liability for any harm or damage caused by the animal while at the reception center facility will also be the responsibility of the owner. Also, bringing your pets to the reception center will delay your entry to and processing from the reception center. It is believed that pets would not be put in any danger should they be left behind, especially if pet owners have areas in which they can house their pets, such as an enclosed garage. Whatever radiation to which they might be exposed is not believed to be great enough to cause any physical harm to them. Also, the lower radiation levels that would be expected to be emitted from an accident at ANO might take many years to manifest into any health problems and since most pets do not have a life expectancy exceeding this time frame, the likelihood of them suffering from an illness brought upon them by exposure to radiation from a possible release from ANO is remote. The shock and turmoil of uprooting these animals from their normal surroundings might actually prove more harmful to them. ‘Service Animals’ will be accepted at all Reception Centers, however, the owners will be responsible for care and control.

## DEFINITIONS

**Administration Building** contains security and administration offices.

**Auxiliary Building** houses equipment and laboratories for normal operation of the plant in addition to certain backup systems. The control room is in this building.

**Condenser** is a large cooling system that changes steam that has spun the turbine back into water to be used again.

**Containment Building** (or reactor building) is a steel and reinforced concrete structure. It houses the reactor, pressurizer, reactor coolant pumps, steam generators, piping, and other equipment.

**Cooling Tower** is the tall hyperbolic reinforced concrete structure which is used to reject the waste heat from ANO-2 to the atmosphere.

**Emergency Planning Zone (EPZ)** is a circle around Arkansas Nuclear One, having a ten mile radius with the plant site at the center. Most of the emergency planning concerning an incident at ANO is concentrated inside this zone.

**Emergency Warning System** is a network of outdoor sirens and tone alert receivers used to tell the public that emergency information is about to be broadcast over local radio stations.

**Entergy Arkansas, Inc.**, a wholly owned subsidiary of Entergy Corporation, is the owner of Arkansas Nuclear One.

**Entergy Corporation** is a publicly held holding company that is the sole owner of Entergy Arkansas, Inc. and Entergy Operations, Inc.

**Fission** is the splitting of an atom into two new atoms. When a uranium atom splits, two new atoms, neutrons and heat are produced.

**Millirem** is the unit used to measure radiation dosage. It is 1/1000th of a REM. REM stands for Roentgen Equivalent Man, a measure of radiation that indicates potential impact on human cells.

**Moderator** is the material used to improve the efficiency of the fission process. Water is used as the moderator at Arkansas Nuclear One.

**NOAA** is the National Oceanic and Atmospheric Administration.

**Nuclear Fuel** is a slightly enriched uranium.

**Nuclear Regulatory Commission (NRC)** is the federal governmental agency that is responsible for the regulation and inspection of nuclear power plants to assure safety.

**Pressurizer** is the tank of steam and water that controls the pressure in the reactor system.

**Primary Coolant** refers to water that is used to transfer the heat from the nuclear fuel to the secondary coolant.

**Reactor** is a large steel vessel that contains the uranium fuel, primary coolant, control rods, and structures that support the uranium fuel.

**Reactor Coolant Pumps** are used to circulate the primary coolant water.

**Secondary Coolant** is the non-radioactive water that is heated into steam which turns the turbine.

**Shielding** is the material within the nuclear plant that prevents the escape of radiation. Shielding can be steel, lead, concrete, or water.

**Steam Generator** is the piece of equipment that permits heat to be transferred from the primary coolant water to the secondary coolant without the water in the two systems actually mixing.

**Steam Generator Tube** separates reactor coolant water from the water used to make steam. Thousands of tubes are housed in a steam generator.

**Turbine** is a series of curved blades attached to a shaft and rotated by steam. The turbine is connected to the generator which produces electricity.

**Turbine Building** contains the secondary (non-radioactive) system of water. Housed in this building are the steam turbines, the electric generator, and the condenser system.

# **RADIOLOGICAL INFORMATION FOR FARMERS AND GARDENERS**

This information was prepared to answer questions that farmers and gardeners might have after a serious accident at Arkansas Nuclear One.

Radioactive material might be released from the nuclear plant to the environment during a serious accident. It could fall onto soil, grass, or surface water, and then be taken into the food chain by plants and animals.

To protect dairy animals, use uncontaminated water and feed supplies. Move dairy animals off pastures and into dry feed lots.

Safe water will be the most important need for animals--even more important than feed. Since you may be away from the livestock for at least 48 hours, provide a 48 hour emergency water supply in livestock shelter areas.

Protect other water supplies from contamination. Cover stock tanks with plastic sheeting or canvas. Water in an open pond could be contaminated and should not be used until shown to be safe. Feed stored in sheds or silos or under a canvas or plastic cover should be used instead of letting animals graze. Feed stored outside, such as hay, that cannot be covered in time can still be used if outer layers are removed.

Suspected contamination would mean that produce must be checked before consumed. In most cases, garden foods may be cleaned by a thorough washing with water. Roots and tubers are not affected by surface contamination.

If you have been instructed to evacuate your farm, you may be allowed to return to feed and care for your livestock. Permission to return to evacuated areas must be obtained through your County Emergency Operations Center and the State Technical Operations Control Director. More information is available by calling the Arkansas Department of Health at 1-800-422- 6630 or (479)968-7171. TDD users may call 711.

# SPECIAL NEEDS INFORMATION

This information will remain confidential: however it is needed to help us protect you in an emergency. Please fill out this form, even if you have filled one out before. This information is needed to keep our records current.

(Submission of this form authorizes Nuclear Planning and Response to share this information with appropriate emergency response organizations)

\_\_\_\_\_  
(FIRST NAME) (MIDDLE NAME) (LAST NAME)

\_\_\_\_\_  
(ADDRESS) (ROUTE, BOX OR STREET)

\_\_\_\_\_  
(CITY) (COUNTY) (ZIP CODE) (TELEPHONE)

**Soc. Sec. No./DL** \_\_\_\_\_ **Date of Birth** \_\_\_\_\_

If you live in a rural area, give directions to your home below

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Please check any of the following which apply to you.*

- Hearing impaired.       Sight impaired.
- I would need special notification in an emergency.
- I would need a ride in an emergency.
- I do have a friend, neighbor or relative who could give me a ride in an emergency.  
The person's name, address and telephone number is:

\_\_\_\_\_  
\_\_\_\_\_

- I already have a NOAA RADIO. The Serial Number is: \_\_\_\_\_
- I can hear the weekly siren test.
- I am severely handicapped. A description of my condition is given below: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

- Because of my medical condition, I would prefer to be evacuated to a medical facility rather than the Designated Reception Center.

**Arkansas Department of Health  
Nuclear Planning and Response Program  
Post Office Box 1749  
Russellville, Arkansas 72811**

**EMERGENCY INFORMATION-KEEP IN SAFE PLACE**