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#### FOR QUESTIONS ABOUT THIS MATERIAL

During emergency operations, additional telephone numbers will be published and broadcast over the Emergency Alert System (EAS).

Tennessee Valley Authority 423-843-7839

Hamilton County Office of Emergency Management and Homeland Security

423-209-6919

Cleveland-Bradley County Emergency Management Agency

423-728-7289

Tennessee Emergency Management Agency (NON-EMERGENCY)

615-741-0001 or 800-262-3300

For alternate formats of this document, call 865-632-6824 and allow five workdays for processing.



## **Dear Sequoyah Neighbor,**

As in the past, the Tennessee Valley Authority, the state of Tennessee and your local emergency management agency are providing you with a calendar that contains important information about Sequoyah Nuclear Plant.

This calendar contains updated information reflecting additions and changes over the past year. This information is intended to help you better understand Sequoyah and the emergency plans that have been developed for your protection. We recommend you keep the calendar in a convenient, readily available location. Previous calendars or brochures concerning emergency information or instructions about Sequoyah should be discarded.

We realize that some Sequoyah neighbors may require additional assistance in the unlikely event of an emergency at the plant. A pre-addressed, postage-paid card is included for those neighbors to fill out and return if such assistance is needed. In order for emergency officials to maintain a current list of persons who would need assistance, this card must be returned immediately, even though you may have sent a card from a previous calendar or brochure.

If you have any questions about this material, please call one of the numbers listed on this page, and we will be glad to answer them for you.

Ton

**Tom Marshall**Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority

Patrick C. Sheehan

Director

Tennessee Emergency Management Agency State of Tennessee

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# The Prompt Notification System

We expect Sequoyah Nuclear Plant to operate safely. However, if an emergency occurs at the plant, TVA will inform state officials at once.

In-depth emergency plans have been prepared by TVA, the state of Tennessee and your local emergency management agency. These plans are in place to protect your health and safety, and this calendar is a part of those plans because we want you to be prepared, know what the sirens mean, and know what you should do if you hear them.

If needed, the Prompt Notification System will be activated quickly to inform the public of any potential threat. The Prompt Notification System uses sirens and tone-alert radios to notify members of the public to tune their radios or televisions to an Emergency Alert System (EAS) station. The EAS station will provide information and emergency instructions for the public to follow.

The Emergency Alert System includes local radio and television stations, NOAA Weather Radio and the cable-TV interrupt system. Fixed sirens provide coverage out to approximately 10 miles around Sequoyah. If you hear the sirens, tune to a local radio or television station for news and instructions.

The sirens are operated by the Tennessee Emergency Management Agency (TEMA) to warn residents of an incident at Sequoyah.

If you note a problem with one of the sirens, please notify your county or state emergency management agency using one of the numbers listed on page 1.



Being able to alert and warn the public quickly in an emergency can save lives.

The Integrated Public Alert and Warning System (IPAWS) provides a single interface that allows emergency officials to warn the public effectively during serious emergencies through the Emergency Alert System (EAS), Wireless Emergency Alerts (WEA), and National Oceanic and Atmospheric Administration (NOAA) Weather Radio (NWR).

#### **Emergency Alert System (EAS)**

In addition to the Prompt Notification System, TEMA may issue emergency alerts through radio and television broadcasters, cable systems, and satellite radio and television providers via the EAS.

#### **Wireless Emergency Alerts (WEA)**

In addition to the Prompt Notification System, TEMA may issue Wireless Emergency Alerts. WEA are emergency messages sent by authorized government alerting authorities through your wireless provider.

A WEA message will look like a text message. It will show the type and time of the alert, any action you should take, and the agency issuing the alert. To ensure that you receive all WEA messages, check the settings on your mobile phone to confirm that you have not selected to opt out of WEA messages.

#### **NOAA** Weather Radio (NWR)

NOAA Weather Radio All Hazards is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official National Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, seven days a week. In the event of an emergency at a TVA nuclear facility, NWR also will broadcast information about the emergency.

NOAA Weather Radio receivers come in a variety of sizes, styles and prices. They can be found in many electronics stores, or purchased directly from radio manufacturers and outlets found on the internet.

#### **Local Alerts**

You also may choose to sign up for your local notification system.

**Bradley County:** Residents of Cleveland/Bradley County and those in neighboring communities can immediately begin receiving pertinent information via text message and email by texting "Join CBCEMA" to 31002 or by registering online at bradleyco.app.regroup.com.



# If you hear the sirens

**Check it out –** it could be only a test. Siren tests occur in your area on the first Wednesday of each month at noon.

Remember: Hearing a siren or tone-alert radio does not mean you should evacuate. It means turn on your radio or television and listen for instructions.

Tune to your local radio or television station and listen for details. WUSY-FM (100.7) in Chattanooga is the primary EAS station in the area and is monitored by other stations.

Most radio and television stations in the area participate in the EAS and will be making announcements. NOAA Weather Radio (162.55 MHz) will instruct listeners to tune to one of these stations.

#### Check on your neighbors.

**Do not use the phone** unless absolutely necessary. The phone lines need to be open for emergency workers. Do not call 911 for information if you hear the sirens.

#### If the warning involves an incident at Sequoyah,

you may be advised to go indoors and close all windows, doors and other sources of outside air. You may be advised to monitor and prepare, or you may be advised to leave (evacuate) your area. See additional information at right.



This means go inside the nearest safe building or structure (home or business) and stay inside until further notification.



## If you are advised to take shelter indoors

- Go indoors and stay there until further notice.
- · Close all doors and windows.
- Shut off all systems that draw outside air into the house, such as furnaces, air conditioners, fireplace vents and dampers.
- Stay tuned to your local EAS radio or television station. These are the best sources for information and instruction.
- The primary EAS station for the area is WUSY-FM (100.7).

- Prepare to evacuate.
- If you must go outside, protect your breathing.
   Place a damp cloth or towel over your nose and mouth.
- If you are told that it is safe to go outside, try to check on your neighbors. They may not have heard the announcements.
- Do not use the phone unless you have an emergency and need help. Leave the lines open for official business.



# If you are advised to monitor and prepare

This is a precautionary action to advise the public within the Emergency Planning Zone (EPZ) that a serious emergency at the nuclear plant exists and you should monitor the situation and prepare for the possibility of evacuation, sheltering in place or taking other protective actions.



# If you are asked to leave (evacuate) the area

- Stay calm and do not rush. Evacuation can work properly and reduce your risk only if you act safely and calmly.
- Take a few items with you. Gather personal items you or your family might need, using the checklist on page 8.
- Turn off lights, appliances and water.
- As you leave, lock your house and tie a white cloth or white towel on your front door. This sign will let emergency workers know that everyone in your home has left the area.
- Ask your local emergency management agency for pet evacuation procedures during an emergency.
- Use your own transportation or, if possible, make arrangements to ride with a neighbor.
   Keep car windows and air vents closed and listen to an EAS radio station.
- Use the map on page 4 of this booklet to find the sector in which you live and the evacuation

- route you should follow. Write this information in the space provided next to the map.
- Follow the evacuation routes shown on the map.
   If you need a place to stay, shelter information points will be located along the controlled evacuation routes.

If an evacuation is underway, members of the public who are NOT directed to evacuate should remain off the roadways to allow the evacuation to proceed.

#### While you are away

- Local police officers will secure the evacuated areas to protect homes and businesses.
- ONLY authorized persons will be allowed into the evacuated areas.
- Officials of the Tennessee Division of Radiological Health will monitor affected areas. You will be notified when it is safe to return home.



the map.

If an evacuation is ordered, it is important that you follow the evacuation routes shown on

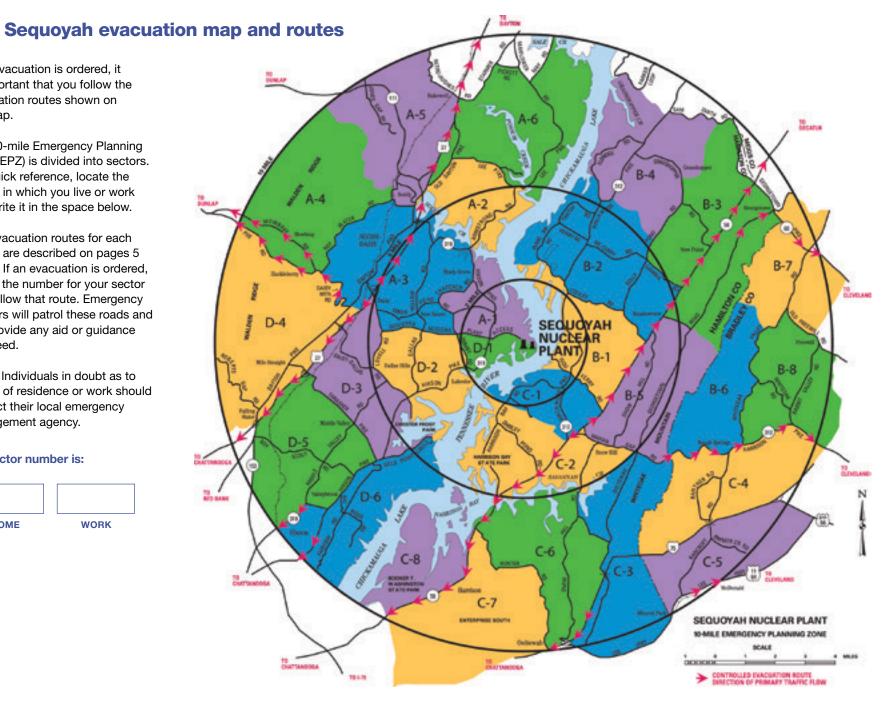
The 10-mile Emergency Planning Zone (EPZ) is divided into sectors. For quick reference, locate the sector in which you live or work and write it in the space below.

The evacuation routes for each sector are described on pages 5 and 6. If an evacuation is ordered, locate the number for your sector and follow that route. Emergency workers will patrol these roads and will provide any aid or guidance you need.

Note: Individuals in doubt as to sector of residence or work should contact their local emergency management agency.

#### My sector number is:





# Controlled evacuation routes

Controlled evacuation routes are established for the purpose of helping the traffic flow. These routes will be patrolled by law enforcement officers and traffic-assist teams. In addition, if you are not familiar with the area or your shelter assignment, shelter information points will be set up on each route to assist in getting you to your assigned shelter. The controlled evacuation routes are indicated by arrows on the map on page 4 and are as follows:

**U.S. 27:** North from the intersection of Sequoyah Access Road into Rhea County and south from the intersection into Chattanooga

**State Route (SR) 58:** North from the intersection of Igou Ferry Road into Meigs County and south from the intersection into Chattanooga

Mowbray Pike: West into Sequatchie County to Dunlap

Hixson Pike: South into Chattanooga

Middle Valley Road: South into Chattanooga

Georgetown Road: East into Cleveland

Harrison Pike: East into Cleveland

South Lee Highway: East into Cleveland

#### A-1, A-2, A-5

#### To: Rhea Central Elementary School 1005 Delaware Ave., Dayton, TN 37321 (Rhea County)

Take the most direct route from your location to U.S. 27; go north on U.S. 27 and take the Business Route into Dayton to Delaware Avenue; turn left on Delaware to the school, located at 1005 Delaware Ave. at the corner of Delaware and SR 30 West.

#### A-3. A-6

#### To: Rhea County Middle School 405 Pierce Road, Evensville, TN 37332 (Rhea County)

Take the most direct route from your location to U.S.

27; go north on U.S. 27 into Rhea County through Dayton to Evensville; turn left on Eagle Lane.

#### **A-**4

#### To: Sequatchie County High School 7067 TN-28 Scenic, Dunlap, TN 37327 (Sequatchie County)

Take the most direct route from your location to Mowbray Pike; go west on Mowbray Pike and turn right onto Henson Gap Road; go west on Henson Gap Road into Sequatchie County and turn right onto Jimmy Johnson Road; go north and turn left onto North TN 111; go north on TN 111 to U.S. 127; turn left on U.S. 127 and go to SR 28; turn right on SR 28 to the school on the right.

#### B-1, B-2, B-3, B-4, B-5

#### To: Meigs County High School 105 Abel Ave., Decatur, TN 37322 (Meigs County)

Take the most direct route from your location to SR 58; go north on SR 58 into Meigs County to Decatur; go through the intersection with SR 30 and turn left on West Memorial Drive; go three blocks on West Memorial Drive and turn right on School Drive to the school on the right.

#### B-6, B-8

# To: Ocoee Middle School Ocoee Street at 23rd Street, Cleveland, TN 37311 (Bradley County)

Take the most direct route from your location to Harrison Pike into Cleveland; turn left on Keith Street and go to 25th Street; turn right and go to Ocoee Street; turn right on Ocoee Street and go to the shelter at Ocoee and 23rd streets.

#### **B-7**

# To: Ocoee Middle School Ocoee Street at 23rd Street, Cleveland, TN 37311 (Bradley County)

Take the most direct route from your location to Georgetown Road into Cleveland to 25th Street; follow 25th Street to Ocoee Street; turn right on Ocoee Street and go to the shelter at Ocoee and 23rd streets.

#### C-1, C-2

#### To: Brainerd High School 1020 N. Moore Road, Chattanooga, TN 37411 (Hamilton County)

Take the most direct route from your location to SR 58; go south on SR 58 to SR 153; go south on SR 153 to Lee Highway/Brainerd Road; turn right on Brainerd Road and go to N. Moore Road; turn right on North Moore and go to the school at 1020 N. Moore Road.

#### C-3, C-6

#### To: East Ridge High School 4320 Bennett Road, East Ridge, TN 37412 (Hamilton County)

Take the most direct route from your location to SR 58; go south on SR 58 to SR 153; go south on SR 153 to I-75 South; go south on I-75 to the East Ridge exit; turn right on Ringgold Road to Tombras Road (traffic light No. 8); turn left on Tombras Road to Bennett Road; turn right and go to the school on the left at 4320 Bennett Road.

#### C-4, C-5

# To: Ocoee Middle School Ocoee Street at 23rd Street, Cleveland, TN 37311 (Bradley County)

Take the most direct route from your location to South Lee Highway or Harrison Pike into Cleveland to Keith Street. Go north on Keith Street to 25th Street; turn right on 25th Street and go to Ocoee Street; turn right on Ocoee Street and go to the shelter at Ocoee and 23rd streets.

#### C-7

#### To: East Lake Academy 2700 E. 34th St., Chattanooga, TN 37407 (Hamilton County)

Take the most direct route from your location to SR 58; go south on SR 58 to SR 153; go south on SR 153 to I-75 South; go south on I-75 to I-24 West; go west on I-24 to the Fourth Avenue exit; turn left on Fourth Avenue to East 34th Street; turn left on East 34th Street to Dodds Avenue; school is on the right at 2700 E. 34th St.

#### **C-8**

#### To: Dalewood Middle School 1300 Shallowford Road, Chattanooga, TN 37411 (Hamilton County)

Take the most direct route from your location to SR 58; go south on SR 58 to SR 153; go south on SR 153 to the Shallowford Road exit; turn right and go to the school at 1300 Shallowford Road.

#### D-1, D-2, D-6

#### To: Chattanooga High Center for Creative Arts 1301 Dallas Road, Chattanooga, TN 37405 (Hamilton County)

Take the most direct route from your location to Hixson Pike; go south on Hixson Pike to Fernway Road; Fernway Road will turn into Old Dallas Road; continue on Old Dallas Road to Dallas Road; continue on Dallas Road to the school, at 1301 Dallas Road.

#### **D-3**

# To: Orchard Knob Middle School 500 N. Highland Park Ave., Chattanooga, TN 37404 (Hamilton County)

Take the most direct route from your location to Hixson Pike; go south on Hixson Pike to Dupont Parkway on ramp; turn left on Dupont Parkway, go south on Dupont Parkway to South Amnicola Highway; go south on Amnicola Highway to Wilcox Boulevard; turn left on Wilcox Boulevard and go to Holtzclaw Avenue; turn right on Holtzclaw to Cleveland Avenue; turn left on Cleveland Avenue to Highland Park Avenue; turn right on North Highland Park to the school at 500 N. Highland Park.

#### D-4. D-5

# To: Howard School of Academics and Technology 2500 Market St., Chattanooga, TN 37408 (Hamilton County)

Take the most direct route from your location to U.S. 27; go south on U.S. 27 to the I-24 interchange; take the Lookout Mountain/South Broad Street exit onto Williams Street; turn right on Williams Street; go to 26th Street; turn left on 26th Street and go to Market Street. The school is at 2500 S. Market St.



## **School pairings for relocation**

If an incident involving an actual or potential radiological release occurs at Sequoyah Nuclear Plant, first consideration will be given to the safety of children.

If a Site-Area Emergency is declared at the plant (see page 9, "How emergencies are classified"), students and childcare children in the 10-mile Emergency Planning Zone will be relocated to paired schools in a safe area. Children will be under the supervision of school officials at all times during and after the movement.

To allow school officials to move the children quickly and safely without causing unnecessary delays, do not attempt to pick up children at the schools once the relocation order is issued.

A list of schools and childcare centers in the EPZ and the schools to which the children will be taken is provided below. (Sector locations are in parentheses.)

#### **Bradley County Schools**

#### **Prospect Elementary School (B-6)**

Relocated to: Ocoee Middle School, Ocoee Street at 23rd Street, Cleveland, TN

#### **Bradley County Childcare Facilities**

#### Korner Kampus II Day Care (C-5)

Relocated to: Ocoee Middle School, Ocoee Street at 23rd Street. Cleveland. TN

#### **Hamilton County Schools**

#### **Bethel Christian Academy (Private) (D-6)**

Relocated to: Chattanooga High Center for Creative Arts, 1301 Dallas Road, Chattanooga, TN

#### **Big Ridge Elementary School (D-6)**

Relocated to: Chattanooga High Center for Creative Arts, 1301 Dallas Road, Chattanooga. TN

#### **Brown Middle School (C-7)**

Relocated to: East Lake Academy, 2700 E. 34th St., Chattanooga, TN

#### Central High School (C-7)

Relocated to: East Lake Academy, 2700 E. 34th St., Chattanooga, TN

#### **Daisy Elementary School (D-3)**

Relocated to: Rhea Central Elementary School, 1005 Delaware Ave., Dayton, TN

#### **Harrison Bay Future Ready Center (C-2)**

Relocated to: Brainerd High School, 1020 N. Moore Road, Chattanooga, TN

#### **Harrison Elementary School (C-8)**

Relocated to: Dalewood Middle School, 1300 Shallowford Road, Chattanooga, TN

#### **Hixson High School (D-5)**

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### **Hixson Middle School (D-5)**

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### **Hunter Road Middle School (C-7)**

Relocated to: East Ridge High School, 4320 Bennett Road, East Ridge, TN

#### Ivy Academy Inc. (D-4)

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### John Allen Elementary School (A-3)

Relocated to: Rhea County Middle School, 405 Pierce Rd., Evensville, TN

#### Loftis Middle School (D-3)

Relocated to: Orchard Knob Middle School, 500 N. Highland Park Ave., Chattanooga, TN

#### McConnell Elementary School (D-3)

Relocated to: Orchard Knob Middle School, 500 N. Highland Park Ave., Chattanooga, TN

#### Middle Valley Elementary School (D-3)

Relocated to: Orchard Knob Middle School, 500 N. Highland Park Ave., Chattanooga, TN

#### North Hamilton Co. Elementary School (A-5)

Relocated to: Rhea Central Elementary School, 1005 Delaware Ave., Dayton, TN

#### Sequoyah High School (D-2)

Relocated to: Chattanooga High Center for Creative Arts, 1301 Dallas Road, Chattanooga, TN

#### Skillern Elementary School (D-5)

Relocated to: Howard School of Academics and Technology, 2500 Market St., Chattanooga, TN

#### Soddy-Daisy Middle School (A-3)

Relocated to: Rhea County Middle School, 405 Pierce Rd., Evensville, TN

#### **Soddy Elementary School (A-5)**

Relocated to: Rhea Central Elementary School, 1005 Delaware Ave., Dayton, TN

#### Soddy-Daisy High School (D-3)

Relocated to: Rhea County Middle School, 405 Pierce Rd., Evensville, TN

#### **Snow Hill Elementary School (C-2)**

Relocated to: Brainerd High School, 1020 N. Moore Road, Chattanooga, TN

#### **Ooltewah Elementary (C-6)**

Relocated to: East Hamilton School, 2015 Ooltewah Ringgold Road, Ooltewah, TN

#### **Ooltewah High School (C-6)**

Relocated to: East Hamilton School, 2015 Ooltewah Ringgold Road, Ooltewah, TN

# Ooltewah Seventh Day Adventist School (Private) (C-6)

Relocated to: East Ridge High School, 4320 Bennett Road, East Ridge, TN

#### Wallace A. Smith Elementary School (C-7)

Relocated to: East Ridge High School, 4320 Bennett Road, East Ridge, TN

#### **Hamilton County Childcare Facilities**

#### **Burk's United Methodist Day Care (D-5)**

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### Jungle Town Daycare (Hixson) (D-5)

Relocated to: Jungle Town Daycare (Hixson) 7531 Shallowford Rd., Chattanooga, TN

#### Childcare Network (Ooltewah) (C-7)

Relocated to: East Lake Academy, 2700 E. 34th St., Chattanooga, TN

#### Child Care at Volkswagen Drive (C-7)

Relocated to: East Lake Academy, 2700 E. 34th St., Chattanooga, TN

#### Daisy Head Start (D-2)

Relocated to: Chattanooga High Center for Creative Arts, 1301 Dallas Road, Chattanooga, TN

#### **Dallas Bay Baptist Church (D-3)**

Relocated to: Orchard Knob Middle School, 500 N. Highland Park Ave., Chattanooga, TN

#### **Discovery Point Child Development Center (C-7)**

Relocated to: East Lake Academy, 2700 E. 34th St., Chattanooga, TN

#### **Grace Christian Academy (D-5)**

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### **Hixson First Baptist Child Development Center (D-5)**

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### **Hixson Learning Center (D-6)**

Relocated to: Chattanooga High Center for Creative Arts, 1301 Dallas Road, Chattanooga, TN

#### **Hixson United Methodist Day Care (D-5)**

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### Joy's Little Darlings (D-2)

Relocated to: Chattanooga High Center for Creative Arts, 1301 Dallas Road, Chattanooga, TN

#### Kiddieland (D-5)

Relocated to: Howard School of Academics and Technology, 2500 S. Market St., Chattanooga, TN

#### Kid City USA - Soddy-Daisy (A-3)

Relocated to: Rhea County Middle School, 405 Pierce Rd., Evensville, TN

#### Kids 'R' Kids Preschool (D-6)

Relocated to: Chattanooga High Center for Creative Arts, 1301 Dallas Road, Chattanooga, TN

#### **Little People of Villagewood (C-8)**

Relocated to: Dalewood Middle School, 1300 Shallowford Road, Chattanooga, TN

#### Middle Valley Academy (D-3)

Relocated to: Orchard Knob Middle School, 500 N. Highland Park Ave., Chattanooga, TN

#### Mill Creek Country Day School (C-6)

Relocated to: East Ridge High School, 4320 Bennett Road, East Ridge, TN



# If you will need additional assistance during an emergency

Your health and safety are important. Therefore, plans must be made to assist and care for individuals who have disabilities or access and functional needs.

If you or someone you know lives within 10 miles of Sequovah and will need additional assistance during an emergency, please fill out and mail one of the two cards provided in this calendar. The card is pre-addressed and postage-paid and must be mailed as soon as possible so proper arrangements can be made.

Please fill out and return the card even though you may have returned the card from a previous calendar.

This will enable your emergency officials to maintain a current list of all persons who would need assistance.

After you have answered all the questions, drop the card in a mailbox.

If you have any questions or need additional cards, you may contact the appropriate emergency management office listed on page 1 of this calendar.

Dial 711 for TTY/Relay Service.



# For farmers and home gardeners

If a major incident happens at Sequoyah Nuclear Plant, the Tennessee Department of Agriculture will issue periodic information concerning the safety of using homegrown products.

You should stay tuned to an EAS station for these announcements. Information on actions you can take to protect crops and livestock is available from your county agricultural extension agent.

#### Your crops

• An unharvested crop is hard to protect. But normal harvesting and processing still may be possible if time permits.

- Crops already harvested will be safer if they are stored inside.
- · You should wash and peel vegetables and fruits from your garden before use if they were not already harvested.

#### To protect your livestock

- Provide as much shelter as possible. If you do not have enough space in barns or sheds, use natural shelters such as wooded lots or culverts.
- · Take care of milk animals first.
- Provide plenty of food and water and make sure shelters are well ventilated.
- Use stored feed when possible.

# **M** Emergency supplies checklist

Emorgonov cupplies for your home

To help you prepare for any type of emergency, we have provided two lists of supplies. One lists items you may need to keep in your home to aid your response. The second lists supplies to take with you if you are asked to leave the area. Check the supplies you would need and add supplies not listed.

	lergency supplies for your nome
	First-aid kit
	Toolbox
	Candles and matches
	Potassium iodide tablets*
	Portable radio, flashlight, extra batteries
Ev	acuation supplies
	This calendar
	Prescription and over-the-counter medications
	Personal health products (shaving cream, toothbrush, etc.)
	Necessary foods for dietary restrictions
	Blankets and pillows
	Cash, checkbook, credit cards, important papers
	Items for children (favorite toy, books)
	Change of clothing
	Potassium iodide tablets*

\*Potassium iodide tablets - In cases where you may be exposed to certain types of radioactivity, the Tennessee Department of Health may direct you to take potassium iodide (KI) tablets. These tablets, when taken as directed, may reduce the amount of radioactive iodine absorbed by your body's thyroid gland. Should an accidental release of radiation occur, potassium iodide will be available at all mass-care shelters. However, if you live within 5 miles of the plant and prefer to have it on hand, you may pick up a supply at the following location: Sequovah Health Center, 9527 Ridge Trail Road, Soddy-Daisy, TN 37379, 423-842-3031.

Any questions concerning potassium iodide, including allergies to iodine or other contraindications, should be referred to the Sequoyah Health Center.



## **General information**

#### How emergencies are classified

If there is an incident at Sequoyah Nuclear Plant, it will be placed in one of four categories that have been established by the United States Nuclear Regulatory Commission and adopted by the state of Tennessee and TVA.

The four emergency levels are described below in order from least to most severe.

- A Notification of Unusual Event is the least serious. Because of strict federal laws, any event out of the ordinary is reported to federal, state and local authorities. The event poses no threat to you or to plant employees, but emergency officials are notified.
- 2. An Alert is declared when an event has occurred that could reduce the level of safety of the plant, but backup plant systems still work. Emergency agencies are notified and kept up-to-date, but no action by the public is necessary.
- 3. A Site-Area Emergency is declared when an event involving major problems with plant safety systems has progressed to the point that a release of some radioactivity into the air or water is possible. The sirens will be sounded. If they are, you should listen to radio and television stations for details.
- 4. A General Emergency is the most serious of the four classifications and is declared when an event at the plant has caused a loss of safety systems and is likely to lead to a release of radiation into the environment. State and local authorities will take action to protect residents living near the plant. People in affected areas will be advised to stay indoors or to evacuate.



### **Glossary**

**Background radiation –** This is radiation from natural sources. It comes from the sun's rays, and it's in the ground, building materials and the human body.

**Core** – The central part of a nuclear reactor that contains the uranium fuel.

**Fission** – The nuclear process in which a heavy atom, such as uranium, splits into fragments.

**Fuel assembly –** A collection of rods that contain the nuclear fuel pellets. The fuel pellets produce heat to make the steam used to generate electricity.

Fuel pellets – Thimble-size uranium dioxide pellets used in nuclear power generation. Each pellet contains about the same amount of energy as that produced from burning 1 ton of coal. A modern reactor core may contain up to 17.5 million pellets.

Fuel rods – Hollow tubes that contain stacks of uranium dioxide fuel pellets. These rods are bundled together to form fuel assemblies.

Half-life – The time required for a radioactive substance to lose one-half of its radioactivity. Half-life can vary from minutes to years, depending on the substance.

#### What is radiation?

Radiation is energy traveling in the form of invisible particles or rays after the breakdown of radioactive atoms. Everyone is exposed to small amounts of radiation every day. Air, water, food and sunshine are a few sources of natural background radiation. The dose humans receive from radiation is commonly measured in "millirem." According to recent studies, the average radiation dose to a member of the public in the United States is about 620 millirem per year.

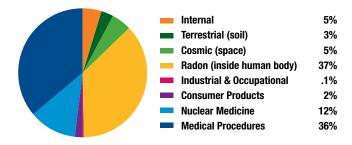
Radiation also comes from man-made sources such as building and road construction materials, smoke detectors, televisions, and luminous watches (to name a few). Medical procedures such as X-rays and diagnostic tests can result in 0.5 to 1,000 millirem of radiation, depending on a person's treatment for disease or injury.

People are concerned about radiation exposure because it can alter or damage human cell structure. That is why workers at nuclear power plants are carefully monitored and trained to limit their exposure to a level that is as low as is reasonably achievable. The Nuclear Regulatory Commission, which issues licenses to all nuclear power plants, has set a maximum safe individual dose of 5,000

millirem a year, measured over the entire body. To avoid coming even close to this level, TVA work procedures set an administrative limit of 1,000 millirem per year for any worker, with any additional dose requiring written approval.

A nuclear power plant's containment building, reactor vessel and fuel assemblies are barriers designed to contain radiation and protect plant workers and persons living near the plant from any exposures to elevated levels of radiation. Repeated surveys around TVA's operating nuclear plants have shown no detectable increase in radiation above normal background levels.

#### **SOURCES OF RADIATION**





## **How Sequoyah works**

Sequoyah operates much like a fossilfueled power plant, with one major difference. In a fossil plant, coal, oil or gas is burned to make heat. The heat turns water into steam, the steam drives a turbine, and the turbine spins an electrical generator, producing electric power.

The operation is the same at Sequoyah, except the heat is provided by a process called fission that occurs within the nuclear fuel. The fuel for Sequoyah is slightly enriched uranium dioxide, which is made into pellets and sealed inside long metal tubes called fuel rods.

To make up the fuel core, 264 fuel rods are placed in a bundle called a fuel assembly. There are 193 fuel assemblies per reactor core. The heavy steel reactor vessel in which these fuel assemblies are contained is about 44 feet high and 14 feet in diameter. The concrete walls around it are 8 feet thick. The outer dome-shaped concrete containment that encloses each reactor is about 151 feet high and 134 feet in diameter.

When a uranium atom is struck by a small particle called a neutron, it can split (fission), giving off heat and more neutrons. Those neutrons strike other uranium atoms, causing them to split and continue the chain reaction. The reaction is started and stopped by substances that absorb neutrons. Control rods are made of material that absorbs neutrons and can be moved in and out of the fuel core. When inserted into the core, they stop the chain reaction.

The illustration below shows the three separate water systems used at Sequoyah and how the heat from the fission process is used to make steam and generate electricity. Please note that the radioactive water in the primary loop (yellow) is not permitted to mix with other, nonradioactive water systems (pink and blue).

In the primary loop (yellow), water is pumped through the reactor core and heated by the fission process that occurs within the fuel rods. The water is kept under high pressure to prevent it from boiling. The heated water from the reactor is passed through tubes inside four steam generators, where the heat is transferred to a secondary loop.

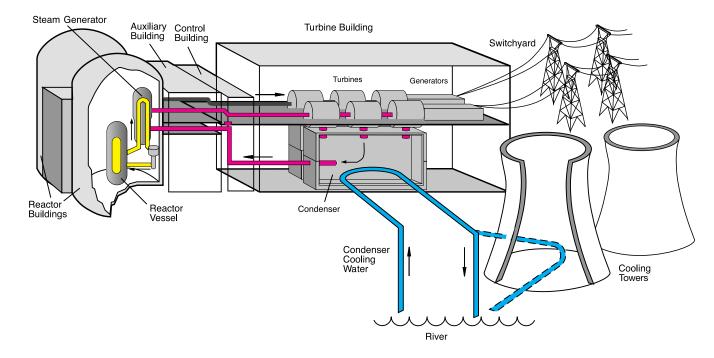
The water in the secondary loop (pink)

boils and turns to steam. The steam is piped to the turbines. Each turbine receives steam at a pressure of more than 800 pounds per square inch and a temperature of more than 500 degrees Fahrenheit. The force of the expanding steam drives three low-pressure turbines and one high-pressure turbine to spin an electromagnet in a coil of wire (the generator) at 1,800 revolutions per minute, generating electric power. The total weight of these rotating parts is more than a million pounds. The generator produces about 24,000 volts, which is sent to transformers in the switchyard and stepped up to 500,000 volts for Unit 1 and 161,000 volts for Unit 2.

After passing through the turbines, the low-energy steam is converted back to water by being circulated around

tubes that carry cool water from Chickamauga Reservoir (blue) in a large boxlike structure called a condenser. The condensed steam – now water – is pumped back to the steam generator at about 50,000 gallons per minute to repeat the cycle.

The water in the condenser tubes picks up heat from the steam passing around the outside of the tubes. This heated water may be passed through Sequoyah's two 459-foot-high cooling towers before being returned to the lake or reused in the plant. The height and shape of these concrete towers create a natural draft of air through the tower base, which is used to remove heat from the water. The white plumes that sometimes rise from the towers are ordinary water clouds.





SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
TVA NUCLEAR EP WEBPAGE	NOVEMBER 2023    S M T W T F S     1 2 3 4     5 6 7 8 9 10 11     12 13 14 15 16 17 18     19 20 21 22 23 24 25     26 27 28 29 30	JANUARY 2024    S   M   T   W   T   F   S			1	2
3	4	5	SIREN 6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21 FIRST DAY OF WINTER	22	23
CHRISTMAS EVE  31	25 CHRISTMAS DAY	26	27	28	29	30



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
TVA NUCLEAR EP WEBPAGE	NEW YEAR'S DAY	2	SIREN TESTING	4	5	6
7	8	9	10	11	12	13
14	MARTIN LUTHER KING JR. DAY	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31		DECEMBER 2023    S M T W T F S     1 2     3 4 5 6 7 8 9     10 11 12 13 14 15 16     17 18 19 20 21 22 23     24 25 26 27 28 29 30     31	FEBRUARY 2024  S M T W T F S  1 2 3  4 5 6 7 8 9 10  11 12 13 14 15 16 17  18 19 20 21 22 23 24  25 26 27 28 29



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JANUARY 2024    S M T W T F S	MARCH 2024    S M T W T F S			1	2	3
4	5	6	7 TESTING	8	9	10
11	12	13	14  VALENTINE'S DAY	15	16	17
18	WASHINGTON'S BIRTHDAY PRESIDENTS' DAY	20	21	22	23	24
25	26	27	28	29		TVA NUCLEAR EP WEBPAGE



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
FEBRUARY 2024    S M T W T F S     1 2 3     4 5 6 7 8 9 10     11 12 13 14 15 16 17     18 19 20 21 22 23 24     25 26 27 28 29	APRIL 2024  S M T W T F S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	TVA NUCLEAR EP WEBPAGE			1	2
3	4	5	SIREN 6	7	8	9
DAYLIGHT SAVING TIME BEGINS*	11	12	13	14	15	16
17	18	19	20	21	22	23
24 31	25	26	27	28	29	30



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	SIREN TESTING	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	EARTH DAY PASSOVER BEGINS	23	24  ADMINISTRATIVE PROFESSIONALS DAY	25	26  NATIONAL ARBOR DAY	27
28	29	30  PASSOVER ENDS		MARCH 2024    S M T W T F S	MAY 2024    S M T W T F S	TVA NUCLEAR EP WEBPAGE



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
APRIL 2024    S   M   T   W   T   F   S	JUNE 2024    S M T W T F S		TESTING	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27  MEMORIAL DAY	28	29	30	31	TVA NUCLEAR EP WEBPAGE



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
MAY 2024    S M T W T F S     1 2 3 4     5 6 7 8 9 10 11     12 13 14 15 16 17 18     19 20 21 22 23 24 25     26 27 28 29 30 31	JULY 2024  S M T W T F S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	TVA NUCLEAR EP WEBPAGE				1
2	3	4	SIREN 5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
30	24	25	26	27	28	29 ARMED FORCES DAY



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
TVA NUCLEAR EP WEBPAGE	1	2	SIREN TESTING	4 INDEPENDENCE DAY	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31		JUNE 2024  S M T W T F S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	AUGUST 2024    S M T W T F S     1 2 3     4 5 6 7 8 9 10     11 12 13 14 15 16 17     18 19 20 21 22 23 24     25 26 27 28 29 30 31



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
TVA NUCLEAR EP WEBPAGE	JULY 2024    S M T W T F S     1 2 3 4 5 6     7 8 9 10 11 12 13     14 15 16 17 18 19 20     21 22 23 24 25 26 27     28 29 30 31	SEPTEMBER 2024    S M T W T F S		1	2	3
4	5	6	7 TESTING	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 LABOR DAY	3	SIREN 4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30			TVA NUCLEAR EP WEBPAGE	AUGUST 2024  S M T W T F S  1 2 3  4 5 6 7 8 9 10  11 12 13 14 15 16 17  18 19 20 21 22 23 24  25 26 27 28 29 30 31	OCTOBER 2024  S M T W T F S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SEPTEMBER 2024    S   M   T   W   T   F   S	NOVEMBER 2024    S M T W T F S	1	TESTING 2	3	4  ROSH HASHANAH ENDS	5
6	7	8	9	10	11 YOM KIPPUR BEGINS	12 YOM KIPPUR ENDS
13	14	15	16  NATIONAL BOSS'S DAY	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		TVA NUCLEAR EP WEBPAGE



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
OCTOBER 2024  S M T W T F S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	DECEMBER 2024    S   M   T   W   T   F   S	TVA NUCLEAR EP WEBPAGE			1	2
DAYLIGHT SAVING TIME ENDS*	4	5	SIREN () 6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	TESTING 4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21  FIRST DAY OF WINTER
22	23	24 CHRISTMAS EVE	HANUKKAH BEGINS CHRISTMAS DAY	26	27	28
29	30	31		TVA NUCLEAR EP WEBPAGE	NOVEMBER 2024    S M T W T F S	JANUARY 2025  S M T W T F S  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

PRESORTED STANDARD
U.S. POSTAGE PAID
TENNESSEE VALLEY
AUTHORITY

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