

# ALVIN W. VOGTLE ELECTRIC GENERATING PLANT

## *2011 Emergency Information Calendar*

Keep this calendar in your home or a handy place so you will have the information in an emergency.



**Dalton**  
UTILITIES



**MEGAPOWER**



OglethorpePower



**GEORGIA  
POWER**  
A SOUTHERN COMPANY

## Dear Neighbor,

At Plant Vogtle – safety is priority one. That includes the safety of our employees, plant, and most importantly, the safety and health of you and your family. The **2011 Vogtle Emergency Information Calendar** contains special information you would need in the unlikely event of an emergency at Plant Vogtle.

There are a couple of things we would like for you to take special note of with the calendar and accompanying materials. The *Special Needs Card* located in the back is to be used by you or anyone at your location who has a physical condition that would require special assistance in the event of an evacuation. Please complete and return the card to ensure proper assistance.

Also included is a new battery for your tone alert radio. Please install the new battery immediately. Tone alert radios provide a means of prompt notification should an emergency occur at Plant Vogtle. It also provides early warning of severe weather and storms using the National Oceanic and Atmospheric Administration (NOAA) warning system. If you move away from the area, please return your tone alert radio to your local Georgia Power office or to the Plant Vogtle Visitors Center. The radios will not work anywhere outside the plant's vicinity.

You may also view the **2011 Vogtle Emergency Information Calendar online** at <http://www.southerncompany.com/southernnuclear/vogtle.aspx>

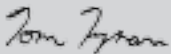
As a part of the companies' Alert and Notification System Upgrade Project to enhance the way residents are notified, the company will install reliable, low maintenance omni-directional mass notification sirens as a *primary* means of emergency notification to the public within the ten mile Emergency Planning Zone (EPZ) around Plant Vogtle. Over the next couple of years, pole mounted sirens will be placed strategically throughout the EPZ to cover *100 percent* of the EPZ.

The replacement of the siren system is part of a comprehensive plan to update the site's Emergency Plan and comply with rules and regulations set by the Nuclear Regulatory Commission (NRC) and the Federal Emergency Management Agency (FEMA).

The employees at Plant Vogtle are grateful for the strong support of the local community. We appreciate the support you have provided for the new units under construction at the plant. These units will be among the first new nuclear units built in the U.S. in more than 30 years. About 1,300 people are currently working at the construction site. More than 3,500 will be employed there at the peak of construction in the 2014 timeframe. Once operational, about 800 people will be needed to staff these units. We appreciate the opportunity to partner with your community in providing jobs and opportunities to Burke County and the surrounding area. We look forward to growing along with you.















If you have questions about information in the calendar or about the operation of your tone alert radio, please contact the Emergency Preparedness Department at Plant Vogtle at **(706) 554-2127**.

Sincerely,



Tom Tynan  
Vice President  
Vogtle Electric Generating Plant

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## WHO IS INVOLVED IN THE EMERGENCY PLAN?

State and local government agencies have plans to protect you if there is an accident at Plant Vogtle. Some of the agencies involved are:

Aiken County Emergency Management Agency

Allendale County Emergency Management Agency

Barnwell County Emergency Management Agency

Burke County Emergency Management Agency

Georgia Emergency Management Agency

South Carolina Emergency Management Division

South Carolina Department of Health and Environmental Control

Georgia Department of Natural Resources

Georgia and South Carolina Governors' Offices

Georgia Power

Southern Nuclear Operating Company

Any serious emergency would generally develop over time. There would normally be plenty of time for you to be notified and for you to take action.



## HOW WOULD YOU KNOW IF THERE WAS AN EMERGENCY?

### VOGTLE TONE ALERT RADIOS

Vogtle tone alert radios have been distributed to all homes and businesses within 10 miles of the plant. A loud tone will sound and a short message will be broadcast. The message will alert you to listen to a local radio or television station for more details. If alerted, tune to the emergency alert stations listed on page 4 for more information. Follow the instructions you are given.

You should keep the radio in a location where you can hear the message. Keep the radio plugged in. Keep the volume turned up. Radios are tested each Wednesday. If the test day is a legal holiday, the testing is done the next work day.

### SIREN SYSTEMS

Sirens have been set up within the 10-mile Emergency Planning Zone (EPZ) around Plant Vogtle. These sirens alert people to listen to a local radio or television station. The sirens have a sound different from fire trucks, etc. The sirens are tested frequently. They are also tested briefly during Plant Vogtle's yearly emergency drill and twice a year during maintenance.



## EMERGENCY ALERT STATIONS

### RADIO

WYFA FM	107.1	Burke County
WKXC FM	99.5	Aiken County
WDOG FM	93.5	Allendale County
WDOG AM	1460	Allendale County
WBAW FM	99.1	Barnwell County
WBBQ FM	104.3	All Counties
WEKL FM	105.7	All Counties
WINZ AM	1340	All Counties
WPCH AM	1380	All Counties
WGAC AM	580	All Counties

### TELEVISION

ABC WJBF	Channel 6	CBS WRDW	Channel 12
NBC WAGT	Channel 26	FOX WFXG	Channel 54

### OTHER ALERTS

Officials also would spread the word by emergency vehicles with public address systems and by knocking on doors. Be a good neighbor and contact others who live near you; however, please leave phone lines clear for emergency uses.

### FALSE ALARMS

A false alarm of the alert radios is possible because of lightning or other events. If your radio alarms and you find NO emergency information on your emergency alert station (see above,) then the alarm is probably false. If this should happen, please contact your Emergency Management Agency office with any questions (see phone numbers on the Emergency Checklist, page 11.)



## KINDS OF EMERGENCIES

1. **Unusual Event.** A minor problem has occurred. No release of radioactive matter has taken place or is expected. There is no danger to the public. You do not have to take any action.
2. **Alert.** Small amounts of radioactive material could be released inside the plant. An alert gets emergency workers ready if the event becomes more serious. There is no danger to the public. It is unlikely that you will need to do anything.
3. **Site Area Emergency.** There has been a serious problem. Small amounts of radioactive material could be released into the area right around the plant. Government officials may order evacuation or sheltering of the public as a precaution. Emergency workers would be ready to take actions if needed. You should tune to one of the radio or television stations listed on page 4 for more information.
4. **General Emergency.** This is the most serious type of emergency at a nuclear power plant. Radioactive material could be released outside the plant site. You may need to take protective actions discussed on the next page. If you need to take action, you will be notified by your tone alert radio or through the media. Stay tuned to the radio or television stations listed in this calendar. County officials will help you and tell you what to do.

### EMERGENCY ACTION

The two actions you may be asked to take to protect yourself are called "take shelter" or "evacuate." These two actions are described in the next two sections. Be sure you understand them. Officials will tell you what to do based on the type of emergency. You may be told that your area is not affected and no action is needed. Whatever you're told to do, keep calm and follow directions.



## IF TOLD TO TAKE SHELTER

Taking shelter means protecting yourself by going inside a building and not breathing outside air. The building could be your house, your workplace, or some other nearby building. Taking shelter will help keep you safe if there is a small amount of radiation in the air.

### IF YOU ARE TOLD TO TAKE SHELTER, FOLLOW THESE STEPS.

1. Stay indoors until further notice.
2. Close all doors and windows.
3. Turn off fans, heaters and air conditioners that use outside air. Use your heating or cooling system only to protect life or health.
4. Do not use fireplaces. Put out the fire. Close dampers or any other air intakes.
5. Stay tuned to your local radio or television stations listed on page 4 for more instructions.
6. Shelter your livestock if you can do so easily. Place them on stored feed and protected water. Keep pets inside.
7. Minimize use of the telephone. Keep the telephone lines open for emergency use.
8. Do not leave. Stay indoors until you receive official notice that it is safe to go out or until you are instructed to evacuate your home.
9. If you must go outside, protect your breathing. Place a damp cloth or towel over your nose and mouth. To provide more protection, fold the cloth over several times before placing it over your nose and mouth.
10. Do not try to pick up your school children. Children who are in school during an emergency will be cared for until you are able to pick them up.



## IF TOLD TO EVACUATE YOUR HOME

Evacuation means that you and anyone who is with you should move to a place that is at least 15 miles away from the plant. Go first to your reception center/shelter. Reception centers/shelters are listed on pages 31 and 32. Sign in when you get there to help keep track of all persons during an emergency.

Do not try to pick up your children if they are in school during an emergency. School children will be cared for until you are able to pick them up. You will be told how to pick them up once you sign in at the reception center/shelter.

Plans have been made to give you housing if you need it. You may also need to be checked for contamination which can be done at your reception center/shelter. Look at the map on pages 31 and 32. Find your reception center and know how to get there.

*NOTE: It is important for you to register at your reception center/shelter even if you do not intend to stay there. This allows officials to verify you are safe and out of the area. Law enforcement officers will make every effort to protect your property while you are away. Do not bring alcoholic beverages, firearms or pets to the reception center/shelter.*

### IF YOU ARE TOLD TO EVACUATE, FOLLOW THESE STEPS.

1. Stay calm. If you already know where to go, how to get there and what to take, that will help you. You will have time to do what you need to do.
2. Stay tuned to one of the stations listed on page 4 for news about the emergency.
3. Children who are in school during an emergency will be cared for. Do not go to the school. If your children are in school and the school is in an affected zone, school children will be sheltered or sent to the reception center as needed. You will be told how to pick up your school children when you get to the reception center/shelter. It is important that you do not go to a school to pick up children.

*continued on next page*

4. Gather what you and your family will need. You will likely have to be away from home for a few days. Take these things along if you can:
- This calendar
  - Glasses, prescription drugs and other important medicines
  - Personal toiletry items (toothbrush, comb, etc.)
  - Foods required for special diets
  - Extra clothing and shoes for each person in your family
  - Baby supplies
  - Two blankets and a sleeping bag, cot or air mattress for each person
  - Portable radio and batteries
  - Flashlight and batteries
  - Some way to identify yourself, such as a driver's license or other important papers with proof of address
  - Cash, checkbook and credit cards
  - Magazines or books to read

*NOTE: Reception centers/shelters provide food, bedding and other emergency services.*

5. Remember to do the following before you leave:
- Shelter your livestock, especially dairy animals, if you can do so easily. Leave enough water and stored feed for several days. Leave your pets inside with enough food and water for several days. You may take your pets with you only if you do not plan to stay at a reception center/shelter.
  - Turn off all appliances except your refrigerator and freezer. Turn off the lights. Turn off water faucets.
  - Lock all windows and outside doors. Law enforcement will patrol the evacuated area.
  - Tie a white cloth to the front doorknob of your house or to the mailbox. The white cloth will signal to emergency workers that you have left the area safely.
  - Remind nearby friends and neighbors about the need to evacuate. Do not use the phone for this since the lines will be needed for official calls.
  - Use your own car if you can. If you have room, check to see if any of your neighbors need to ride with you. If you know someone who is handicapped or an invalid, give them a ride if you can. If you need a ride and have already sent in a special needs card, an emergency worker will pick

you up. If you have not sent in the card, the radio or television will give the phone number to call to be picked up. You can also call your county Emergency Management Agency office (listed on page 11).

*NOTE: Special needs cards are located on the back of this calendar. If you or someone you know would be unable to evacuate himself or herself, fill out the special needs post card on the back of this calendar and mail it now.*

- Turn on your car radio for more information.
  - Follow the route you have marked on the map on page 31. Traffic control officials will help guide you on your trip.
  - Close car windows and vents. Keep the air conditioner and heater off. It is okay to recirculate air inside the car.
6. Drive carefully. Go straight to the reception center/shelter even if you plan to stay with friends or at a motel. Your belongings and clothing may be checked for contamination. The reception center/shelter will also record your temporary address or location.

## EVACUATION ROUTES AND INFORMATION

### EVACUATION ROUTE 1

- Ben Hatcher Road to Shell Bluff Spur to Georgia Highway 80 to Georgia Highway 56 to Perimeter Rd. to Burke County High School.

### EVACUATION ROUTE 2

- Hancock Landing Road to Botsford Church Road to Seven Oaks Road to Cates Mead Road to Highway 56 to Perimeter Rd. to Burke County High School.

### EVACUATION ROUTE 3

- Ebenezer Church Road to Highway 23 to Thompson Bridge Road to Georgia Highway 24 to Perimeter Rd. to Burke County High School.

**EVACUATION ROUTE 4**

- Brigham’s Landing Road to Georgia Highway 23 to Tom Barger Road to Georgia Highway 24 to Perimeter Rd. to Burke County High School.
- Royal Road to Stoney Bluff Road to Georgia Highway 23 to Tom Barger Road to Georgia Highway 24 to Perimeter Rd. to Burke County High School.

**EVACUATION ROUTE 5**

**(Zone G-10, Cowden Plantation)**

- West on County Road 5 to County Road 63 north to County Road 57 west to U.S. Highway 278 north to South Carolina Highway 302 north to South Aiken High School.

**EVACUATION ROUTE 6**

- South on South Carolina Highway 125 to U.S. Highway 278 to Allendale-Fairfax High School.

While you’re away from home, local officers will patrol the area to protect property. Officials will decide when you can go home to check on pets and animals and to pick up other items.

When the emergency has ended, public officials through the news media will tell you it is safe for you to go home.



**HOW TO DETERMINE YOUR ZONE**

Notice on the map that the 10-mile area has been divided into zones. The number by the zone letter tells the distance in miles between that area and the plant.

Government officials will give instructions on which zones are affected and what actions should be taken. You should know the zone in which you live and work.



**EMERGENCY NUMBERS**

**AIKEN COUNTY, SC**

Emergency Management Agency 803-642-1623

**ALLENDALE COUNTY, SC**

Emergency Management Agency 803-584-4081

**BARNWELL COUNTY, SC**

Emergency Management Agency 803-259-7013

**BURKE COUNTY, GA**

Emergency Management Agency 706-554-6651



**EMERGENCY CHECKLIST**

My Reception Center/Shelter is \_\_\_\_\_.

My Evacuation Zone is \_\_\_\_\_.

(See emergency map on page 31. If you cannot determine your zone, please contact Plant Vogtle Emergency Planning at 706-554-2127.

VRU – Recorded information line 1-888-847-1186 activated in the event of an emergency.

**OTHER IMPORTANT NUMBERS:**

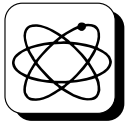
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## RADIATION

### BACKGROUND RADIATION

Radiation is energy released in the form of waves or particles so small that we cannot see them. They are a natural part of our environment. It is in the air we breathe, in the food we eat, in our homes and even in our bodies. The levels of background radiation vary greatly from one location to another. For example, the background level in Denver, Colorado, is almost twice that in the Plant Vogtle area.

### MAN-MADE RADIATION

People also are exposed to sources of man-made radiation, such as X-ray machines and radioactive materials released in nuclear power production. Radiation from these sources is no different from natural background radiation we receive daily.

### MEASUREMENT

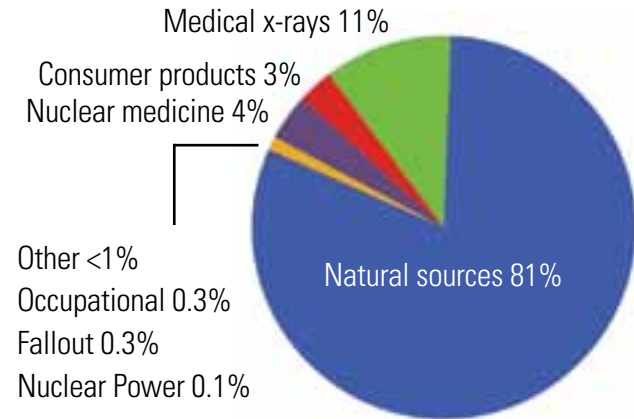
Radiation is measured in units of millirem (mrem). In the United States, the average person receives from 80 to 110 mrem a year from natural background radiation. That same person also receives about 90 mrem a year from medical care. The average person receives less than 1 mrem a year from living next to a nuclear plant. Sources of radiation are listed on the next page.

### RADIATION EFFECTS

How radiation affects us depends upon the kinds of particles or rays; the amount and duration of exposure; how much of the body is exposed; how much radioactive material stays in the body; and how old we are. Small increases in radiation exposure will not harm you. That is why people don't worry about the change in background radiation exposure when they move from one city to another. Even so, nuclear power plants operate to keep radiation exposure to the public as low as possible.

Large amounts of radiation — more than a hundred thousand millirem — could possibly harm you. The chances are very small that an accident at Plant Vogtle would put out a significant amount of radiation. But if such an accident should happen, the plans in this calendar are designed to help you avoid receiving dangerous amounts of radiation.

It's important that you review the emergency plan described in this calendar so you would know what to do if there were an accident.



This chart shows that the nuclear power industry is only a small contributor to your average radiation exposure.

### **Sources and amounts of natural background radiation**

(measured in millirem per year)

Cosmic rays	27
Air	5
Soil and rocks	28
Food and water	39
Building materials	7
Mining and farming	2

### **Sources and amounts of man-made radiation**

(measured in millirem per year)

Diagnostic x-rays	39
Coast-to-coast airline flight	5
Living next to a nuclear plant	Less than 0.1 per year
Mining and farming	2

Source: National Council of Radiation Protection



## WORDS TO KNOW

**Chain Reaction** — a reaction that causes itself to repeat.

**Cold Shutdown** — when the cooling-water temperature in the reactor is below the boiling point and the pressure is reduced to atmospheric pressure.

**Coolant** — a fluid, usually water, used to cool a nuclear reactor and transfer heat energy.

**Containment** — the steel and concrete structure along with the various components that surround and isolate the reactor.

**Contamination** — the presence of unsealed sources of radioactive material in a place where it is not desired.

**Control Rods** — movable rods used to slow down or stop a nuclear chain reaction.

**Core** — the central part of a nuclear reactor that contains the fuel assemblies.

**Curie** — the basic unit used to describe the strength of radioactivity in a sample of material.

**Dosimeter** — a device that can be worn and used to measure the radiation a person receives over a period of time.

**Emergency Core Cooling System** — an emergency system designed to return coolant to the reactor core if coolant is lost.

**Emergency Planning Zone (EPZ)** — the 10-mile area around the plant. This area is required to have special emergency plans.

**Fission** — the splitting or breaking apart of atoms into two or more new atoms. The process releases energy and produces heat.

**Fuel Assemblies** — a group of fuel rods.

**Fuel Pellets** — thimble-sized uranium oxide pellets. A reactor core may contain millions of pellets.

**Fuel Rods** — long, hollow tubes of zirconium metal that contain stacks of fuel pellets.

**Half-life** — the length of time it takes for a radioactive substance to lose one-half of its radioactivity.

**Millirem** — a unit used to measure radiation dose.

**Nuclear Regulatory Commission (NRC)** — the government agency that regulates the nuclear power industry.

**Radiation** — energy released in the form of tiny particles or electromagnetic waves. It is basically the same as x-rays and can be stopped with lead or concrete.

**Reactor Core** — the central portion of a nuclear reactor containing nuclear fuel, water and the control mechanism as well as the supporting structure.

**Reactor Trip (SCRAM)** — refers to the insertion of control rods in the fuel core of the reactor, stopping the fission process.

**Reactor Vessel** — the thick steel vessel that contains the fuel, control rods, and coolant.

**REM** — roentgen equivalent man. Common unit used for measuring human radiation doses, usually in millirem. (1,000 millirem = 1 rem)

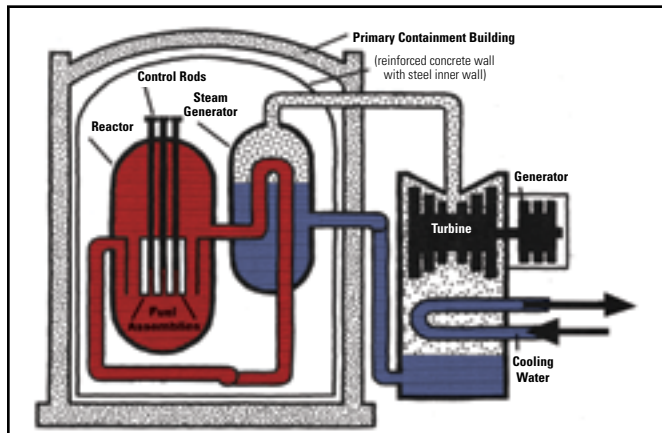
**Shielding** — any material, such as lead or concrete, used around a nuclear reactor to protect workers and equipment.

**Spent Fuel** — used nuclear fuel awaiting disposal.

**Uranium** — a radioactive element found in natural ores. Uranium is the basic fuel of a nuclear reactor.



## HOW PLANT VOGTLE WORKS



At a nuclear plant like Vogtle, fuel rods in the reactor core contain uranium oxide pellets. The uranium atoms in the pellets undergo what is called a “chain reaction,” where they split, or fission, creating heat. When water is pumped from the bottom of the reactor up around the hot fuel rods, it absorbs the heat without boiling because it is kept under high pressure, like a pressure cooker. This “superheated” water is sent through tubes in a steam generator where cooler water surrounds it and boils to steam. The two water sources remain separated from each other; only the heat is transferred. The steam turns blades on a turbine generator causing it to spin a magnet inside a coil of wire. The motion causes electrons to move along the wire in a constant flow called an electric current. Cooling water from the cooling tower condenses the remaining steam and flows back to the cooling tower where excess heat is given off as a mist above the tower.



## INFORMATION FOR FARMERS, FOOD PROCESSORS AND DISTRIBUTORS

State and local emergency response officials could issue special preventive and emergency protective actions for farmers, food processors and distributors. Those instructions may include:

- Cover outside feed supplies with a tarpaulin or other appropriate material.
- Cover open water sources such as wells, rain barrels, tanks, cisterns, etc.
- Remove dairy animals, poultry and other livestock from pasture. Shelter them if possible, and provide them with protected feed and water.
- Do not use fresh milk from your dairy animals, vegetables from your garden, or eggs from your poultry.
- Cover harvested crops or store them inside.
- Do not process or distribute agricultural products until they have been sampled by appropriate government officials and found to be free of contamination.
- Do not engage in dust-producing activities such as cultivating, disking, baling or harvesting.
- Wash, scrub, peel or shell fresh fruits and vegetables before eating them.
- Wash hands thoroughly before preparing or eating food.
- If ordered to evacuate, provide plenty of food and water for your animals. Make sure shelters are well ventilated during hot weather. Farmers will have opportunities to return to their farms to care for their livestock, under supervision of emergency workers.

Emergency officials will advise you what to do based on the type of emergency and other factors such as the distance of your farm or facility from the plant and the prevailing wind conditions. Follow their instructions to prevent or minimize contamination of food products.















The Savannah River Site is one of several government-owned, contractor-operated sites in the U.S. Department of Energy's nuclear defense complex. Savannah River Nuclear Solutions, LLC, the Management and Operations contractor, is responsible for environmental management cleanup, national security, nuclear materials disposition and the Savannah River National Laboratory. Washington Savannah River Company operates the site's radioactive liquid waste facilities.

The Savannah River Site was constructed during the early 1950s to produce basic materials used in the fabrication of nuclear weapons, primarily tritium and plutonium-239. Original construction consisted of five reactors, two chemical separation facilities, a heavy water extraction facility, a nuclear fuel and target fabrication facility, and waste management facilities. While the Savannah River Site still handles tritium for government use, the major focus has shifted to waste management, environmental restoration, and non-proliferation activities.

The Savannah River Site occupies approximately 310 square miles along the Savannah River, principally in the Aiken and Barnwell counties of South Carolina. There is considerable distance between these operating facilities and the site boundary.

The states of Georgia and South Carolina and local (county) governments have detailed plans for response to an emergency at the Savannah River Site. These plans provide for appropriate protective actions. **In the event of an emergency at the Savannah River Site, you would use the same evacuation routes, shelters and information as in a Plant Vogtle emergency. All of this information is detailed in this calendar.**

**SEE MAP PAGE 34-35**



ZONES	EVACUATION ROUTES	RECEPTION CENTERS
A	Evacuation Route 2 or 3	Burke County High School Perimeter Road Burke County
B-5	Evacuation Route 3 or 4	
C-5	Evacuation Route 2 or 3	Burke County High School Perimeter Road Burke County
D-5	Evacuation Route 2	
E-5	Evacuation Route 1 or 2	Burke County High School Perimeter Road Burke County
F-5	Evacuation Route 1 or 2	
B-10	Evacuation Route 4	Burke County High School Perimeter Road Burke County
C-10	Evacuation Route 3 or 4	

ZONES	EVACUATION ROUTES	RECEPTION CENTERS
D-10	Evacuation Route 2, 3 or 4	Burke County High School Perimeter Road Burke County
E-10	Evacuation Route 1,2 or 3	Burke County High School Perimeter Road Burke County
F-10	Evacuation Route 1	
G-10	Evacuation Route 5 Cowden Plantation	South Aiken High School Pine Log Road Aiken County
H-10	Evacuation Route 6 Creek Plantation	Allendale-Fairfax High School U.S. 278 Allendale County
SAVANNAH RIVER SITE	If directed north on South Carolina 125 to Highway 63, take Evacuation Route 5. If directed south on South Carolina 125, take Evacuation Route 6.	South Aiken High School Pine Log Road Aiken County
		Allendale-Fairfax High School U.S. 278 Allendale County

- SYMBOLS**
- COUNTY LINE BOUNDARIES
  - PAVED ROAD
  - UNPAVED ROAD
  - EVACUATION ROUTE
  - COUNTY ROAD
  - US HIGHWAY
  - STATE ROAD, GEORGIA
  - STATE ROAD, SOUTH CAROLINA
  - RECEPTION CENTER
  - BOAT LANDING
  - RIVER

