

# Brunswick Nuclear Plant

# 2012

# **Safety Information**



Keep this brochure in a handy place so that you will have the information in an emergency.

Para recibir una copia de esta información en español, por favor llene sus datos y devuelva la tarjeta adjunta.



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#### **Dear Neighbor:**

At the Progress Energy Brunswick Plant, our commitment to our community is very important to us. An essential part of our relationship is open and candid communications. I hope you'll find this brochure informative and helpful.

Safety is and always will be our top priority. The Brunswick Plant has a highly trained and professional workforce that calls the local community home. From the operations and maintenance personnel to the engineers, environmental specialists and skilled security officers who provide defense for the station, everyone at the plant lives by a culture that promotes safety in every element of the operation, including environmental stewardship.

The purpose of our emergency preparedness program is to protect the health and safety of the public and plant personnel in the unlikely event of an emergency. This brochure, developed in cooperation with the state of North Carolina as well as Brunswick and New Hanover counties, contains important information for you and your family to explain our Emergency Preparedness program. We perform large-scale drills and exercises often to further guarantee immediate and well-orchestrated reaction on behalf of plant personnel during emergencies such as storms.

The U.S. Nuclear Regulatory Commission (NRC) is the federal agency that monitors and regulates every nuclear power plant. The NRC requires that each plant conducts federally evaluated exercises as part of licensing procedures. We plan and train for these exercises with federal, state and county emergency management personnel, as well as the military, to make sure we are prepared to keep you safe. We also want you to be prepared for your own personal safety.

Your safety is something that matters to me personally, so I encourage you to review this material and place it in a convenient location for quick access. I hope this information answers any questions you may have about our commitment to safety. Thank you for your continued support of the Brunswick Plant, and best wishes for a happy and successful 2012.

Mike Annacone

Vice President, Brunswick Nuclear Plant

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#### Your Safety Is Important to Us

This brochure gives basic information on radiation and instructions on what to do if there is an emergency at the Brunswick Plant. State and county officials and Progress Energy want you to be prepared so that you and your family would know what to do in an emergency.

The Brunswick Plant has multiple backup safety systems, so a serious emergency is unlikely to occur. Plant operations are conducted under strict safety rules and are monitored by the Nuclear Regulatory Commission (NRC), a federal agency that regulates the nuclear industry in the United States. As part of regulatory requirements, emergency exercises are conducted every other year with plant personnel and state and county officials participating. This brochure is part of the comprehensive emergency plans developed by the state of North Carolina, Brunswick and New Hanover counties and Progress Energy.

Be sure you understand the information in this brochure so you, your family and your co-workers will be prepared in the unlikely event of an emergency. Discuss this material with family members and friends.

If you know someone who cannot read or is visually impaired, please read this information to them and make sure they understand it.

#### **The Warning System**

In the unlikely event of an emergency at the plant, pole-mounted sirens located in the 10-mile emergency planning zone (EPZ) around the plant would be activated to alert the public. Hearing the sirens does not mean you should evacuate.

If you hear the sirens and are not sure if it is a test of the system or an emergency, tune to one of the radio stations listed on page 3. If there is an emergency, these stations should stop regular programming to give information and instructions to the public. The sirens will sound several times for three-minute intervals if there is an emergency that could affect the public. Keep the radio tuned for more information. You might be advised to shelter in place or to evacuate from the area

The sirens are activated by state and county officials and are tested often to make sure they work properly. The sounding of the sirens is probably just a test, but there could be an emergency at the plant.

Sirens are the primary warning system used to alert the public in the event of an emergency. Officials might also travel along selected county and state roads in the 10-mile EPZ in emergency vehicles equipped with loudspeakers and sirens. They might also go door to door in selected areas. The Coast Guard would assist in alerting boaters on coastal waterways.

Some residents in the 10-mile EPZ have been identified as needing special assistance in the event of an emergency. These people should fill out the **Request for Special Assistance card**, which is attached inside this brochure. We also encourage people living in the 10-mile emergency planning zone to check with their neighbors to ensure that they are aware of the situation, especially neighbors who may have special needs.

#### Classification of Emergencies

There are four different classifications of emergencies that could occur at a nuclear power plant. The classifications help state and county officials and plant personnel determine how they will respond to each kind of problem.

#### Unusual event

This is the least serious of the four emergency classifications. It means there is a problem or a potential problem at the plant, but it would not affect the public. No public action is necessary.

#### Alert

This is an event that could reduce the level of safety at the plant. There is still no danger to the public. State and county officials and Progress Energy might decide to activate their emergency centers, just in case the situation gets worse. No public action is necessary.

#### Site area emergency

This event could lower the safety of the plant, but probably not enough to pose a danger to the public. Radioactivity levels outside the plant site are not expected to exceed federal guidelines. The sirens will likely be sounded to alert the public to listen to local radio and television stations for information and instructions.

#### General emergency

This is the most serious event that could occur at the plant. Plant problems could lead to a release of radioactivity above federal guidelines. State and county officials would take action to protect the public. Sirens would be sounded and local radio and television stations would give instructions to the public living in the affected areas. They would be told to stay indoors or to evacuate from the area.

#### **Taking Shelter in Place**

If there is an emergency at the plant, radio or television stations might instruct you to shelter in place as a precaution. Sheltering in place is the best thing to do if air containing radioactive materials were to pass over your area. By remaining indoors, you reduce exposure to the radioactive materials.

You should follow these steps when told to shelter in place:

- 1. **DO NOT go to your child's school.** Children will be sheltered and protected by school officials.
- 2. Shelter livestock and give them STORED feed and water, not fresh. Keep pets indoors.
- Go indoors and close all windows and doors. Turn off fans, heating and air conditioning that require outside air. Close any other air intakes.
- Do not use the telephone unless absolutely necessary.
   It is imperative that phone lines remain available for emergency response use.
- 5. Cover all open food containers. The food, water and milk supplies in your home are safe to eat and drink.
- 6. Go to a room or basement with few or no windows.
- 7. Stay tuned to a local radio or television station for more emergency information.
- 8. Stay indoors until a local radio or television station reports it is safe to go outside.
- 9. If you must go outside, place a cloth over your nose and mouth.

#### **Evacuation Procedures**

If there is an emergency at the plant, people in some zones might be asked to evacuate as a precautionary measure. Stay calm. You will only be asked to evacuate if it is necessary. Evacuation routes and evacuation shelters for each zone are listed on pages 8-10.

#### What you should do

- 1. Pack necessary items such as the following to take with you:
  - this brochure
  - two sets of clothing, two blankets or a sleeping bag for each person planning to stay at the evacuation shelter
  - toilet articles, bath towels
  - necessary medication, baby needs
  - identification, car registration
  - credit cards, checkbook, cash
  - portable radio, flashlight, batteries

- Do not take pets with you if you plan to stay at the evacuation shelter. All pets and livestock should be sheltered. Leave them a three-day supply of stored food and water. Monitor local media for pet-friendly shelter locations.
- 3. Do not use the telephone unless absolutely necessary.
- 4. Plan ahead! It is a good idea to drive your evacuation route now so that you are familiar with it. Call your local county emergency management office if you have questions. The telephone numbers for state and county emergency management agencies are listed on page 12.

#### As you evacuate

- If your child attends a school in the 10-mile EPZ, do not go to the school. Children in these schools will be taken by bus to relocation schools (listed on page 11).
   Schoolchildren who live in the 10-mile EPZ and attend a school outside the EPZ will be kept at their schools by school officials until they are picked up by their parents.
- Close car windows and vents. Do not turn on the car air conditioner or heater
- 3. As you evacuate, stay tuned to a local Emergency Alert System (EAS) station for more information.
- 4. Follow the evacuation route to the designated evacuation shelter for the area where you live or the relocation school for your child's school. You may stay at the evacuation shelter or another location at least 10 miles away from the plant. It is very important that you sign in at the evacuation shelter even if you do not plan to stay there.

#### **Radiation**

We are constantly exposed to radiation from our natural environment. This is called background radiation. Sources of background radiation include the sun, the air we breathe, soil, plants, building materials and even the human body. We are also exposed to man-made sources of radiation like medical and dental X-rays, smoke detectors and television sets.

You could be exposed to radioactive materials in three ways:

- Radioactive material in the air and on the ground. You can prevent exposure by going to a place with no radioactive material.
- Radioactive material on hair, skin and clothing. Exposure will stop if you wash off the radioactive material.
- Breathing or swallowing radioactive material. Exposure will stop when the material stops giving off radiation or when your body eliminates it.

#### **Radio Stations**

These radio stations will participate in EAS announcements in the event of an emergency. If you hear several three-minutelong siren blasts, tune to one of the following stations for information:

97.3 FM WMNX
98.7 FM WRMR (Spanish language)

Other radio and television stations may also broadcast information and instructions in

If an evacuation of coastal waters is ordered, the U.S. Coast Guard will broadcast information and instructions on the following frequencies:

#### U.S. Coast Guard Radio

an emergency.

 Band
 Channel
 Frequency

 VHF-FM
 16
 156.8 MHz

 HF
 2182.0 kHz

 $\mathbf{2}$ 

#### **Special Assistance**

Special plans have been made for people identified as needing special assistance. The Request For Special Assistance card helps county officials know if you need assistance. Even if you have previously submitted a request card, the information must be updated every year, so please fill out this card and mail it to the appropriate county as soon as possible. This information will be handled by county emergency management officials in a confidential manner. You can also sign up for special assistance by visiting the applicable websites listed on page 5.

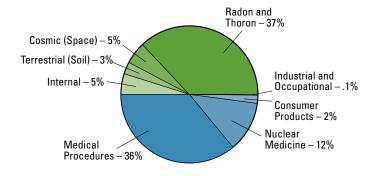
## You should fill out the special assistance card if:

- You are disabled or hearing impaired.
   Your county officials will keep this information on file and will be able to assist you if needed.
- You do not have a car, or cannot ride with someone else. County officials can make arrangements for your transportation. These plans will be broadcast on local radio and television stations. Fill out the attached postcard, or have someone else complete it for you and mail it in.

If you are responsible for someone in a nursing home, rest home or hospital, do not pick them up. Officials will care for these people and take those needing medical care to hospitals and special care facilities outside the 10-mile area surrounding the plant.

If you have neighbors with special needs, you may want to help them shelter in place in their home or to evacuate.

#### **Sources of Radiation Exposure**



Measured in millirem (mR) per year



# Sources and amounts of natural background radiation

Radon	200 mR
Cosmic radiation	27 mR
Internal radiation from human body	40 mR
Rocks and soil	28 mR

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

Total	360 mR
Other (including nuclear power)	2 mR
(TVs, smoke detectors, etc.)	
Consumer products	10 mR
Nuclear medicine	14 mR
Medical X-rays	39 mR

#### **Potassium Iodide**

In cases where the public may be exposed to certain types of radioactivity, state and local health officials may advise you to take potassium iodide (KI) tablets.

KI is an over-the-counter drug that may reduce the amount of radioactive iodine absorbed by the body's thyroid gland. KI saturates a person's thyroid with iodine so that it cannot absorb any radioactive iodine.

The public should only take KI when directed to do so by public health officials. Evacuating the area or staying inside, based on directions given by state and county officials, is the best protective action to take in the unlikely event of a radioactivity release from the Brunswick Plant.

KI would be available at the relocation facilities and is available for school children and staffs at schools within the 10-mile EPZ. If members of the public who live within 10 miles of the plant would prefer to have KI on hand, it can be picked up at the following locations:

New Hanover County Health Department 1.910.798.6500 Brunswick County Health Department 1.910.253.2250 1.888.428.4429

For general information on KI, you can visit the North Carolina Public Health Preparedness & Response Web page on KI at **epi.publichealth. nc.gov/phpr/ki/ki.html**. You may also contact the Division of Public Health's public information officer at 1.919.715.4174.

#### **Agricultural Information**

If you are warned that a radiological emergency exists, make arrangements for the safety of your family and farm.

#### For the farm:

- Shelter all farm animals, particularly dairy cattle and dairy goats.
- Livestock should only be fed stored feed and protected water.
- Bring feed into buildings or cover outdoor feed supplies.
- Sore as much water as possible for livestock. Cover wells, rain barrels and tanks.

#### For the family:

- Place food and water inside a closed area in your house where it cannot be contaminated. Uncovered food brought in from a contaminated area should be cleaned.
- Eggs, potatoes and melons that are cleaned may be eaten.
- Green leafy vegetables should be carefully washed. Remove the outer layers if they were exposed to contamination.
- Peas and beans require normal cleaning.
- Wash hands thoroughly before eating.

#### For farm work:

- Wear protective clothing (similar to that used for pesticide application) when working outdoors for the first few days following the emergency. Remove outer clothing before entering your home or any other clean area. Shower thoroughly as soon as you finish work.
- Wear a dust filter over your nose and mouth when cultivating dry earth or if harvesting corn or feed grains.

#### **Phone Notifications**

In the event of a disaster, mass telephone notifications may be conducted from Brunswick or New Hanover counties. You may sign up your home, cell and unlisted numbers to receive these emergency notifications. (Information is used only to notify in case of emergencies.)

In Brunswick County go to

https://alertregistration.com/
brunswickcountync or

call 1.910.253.5383.

In New Hanover County go to www.nhcgov.com, click on 4ME and complete the registration.

For these and other valuable resources, visit your county's website: www.brunswickes. com or www.nhcgov.com.

# Three Types of Radiation

#### Alpha

The least penetrating, it can be stopped by a piece of paper.

#### Beta

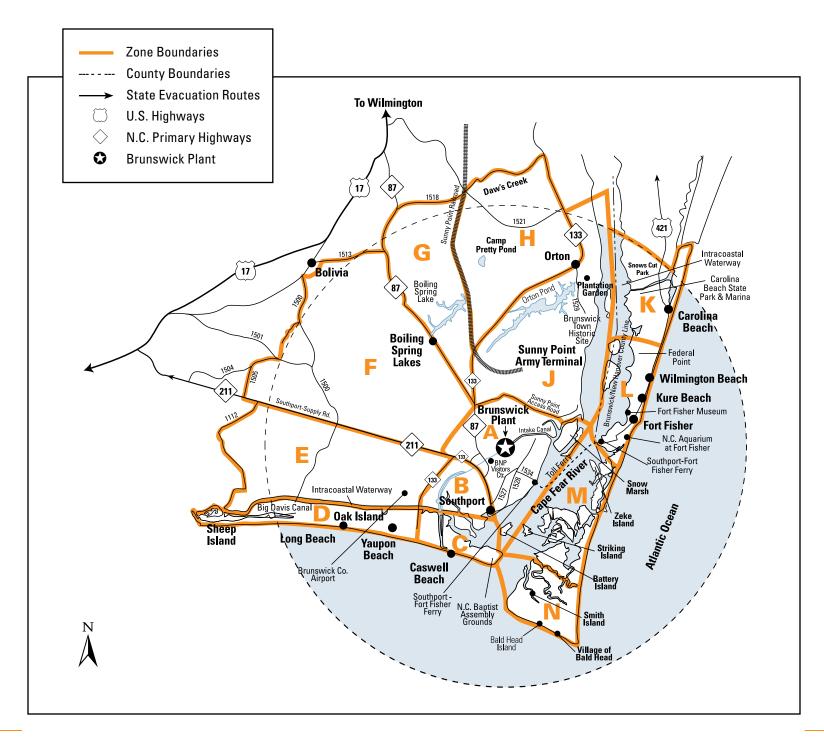
It can be stopped by a thin piece of aluminum.

#### Gamma

It can be stopped by lead, water or concrete.

# Map of the 10-Mile Area around the Brunswick Plant

The map is divided into zones. Each zone is marked with a different letter. If the radio or television station tells you to evacuate, the information on the following pages tells you where to go to be safe. Look at the evacuation route for your zone. Mark the route on the map now so you will have it if you need it.



#### **Zone Evacuation Shelter**

A North Brunswick High School
B North Brunswick High School
C West Brunswick High School
D West Brunswick High School
E West Brunswick High School
F North Brunswick High School
G North Brunswick High School
H North Brunswick High School
J North Brunswick High School
K Trask Coliseum at UNC-W
L Trask Coliseum at UNC-W
North Brunswick High School
N North Brunswick High School

## **Evacuation Routes and Shelters**

Zone	Description of zone	Evacuation routes	Evacuation shelter	Zone	Description of zone	Evacuation routes	Evacuation shelter
A	Bordered on the north by Sunny Point Access Road and the southern border of the Sunny Point Military Ocean Terminal; on the east by the Cape Fear River (border centered in the Cape Fear River) to the N.C. Baptist Assembly east shore (eastern tip of Oak Island); on the south along a line from the N.C. Baptist Assembly east shore north along the western side of Battery Island to Southport/Supply Road/North Howe Street (NC 211), then west along Southport/Supply Road/North Howe Street (NC 211); and on the west to Oakview Dr (SR 1549). The western boundary follows Oakview Dr to Pineview Dr to Clearview Dr and continues northeast from the end of Clearview Dr to the intersection of NC 87 (George II Hwy), NC 133 (River Rd) and the Sunny Point Access Road. This zone includes those portions of Southport NORTH of Howe Street along with Snow Marsh Island and Battery Island.	NC 87 north, NC 133 north, SR 1437 (Old Fayette- ville Rd.) west.	North Brunswick High School	F	Bordered on the north by the southern Bolivia town limits and by SR 1513 (Danford Road); on the east by NC 87 (George II Hwy) to the intersection of NC 87 (George II Hwy), NC 133 (River Rd) and the Sunny Point Access Road. The eastern boundary continues southwest from the intersection of NC 87 (George II Hwy), NC 133 (River Rd) and the Sunny Point Access Road to the end of Clearview Rd. The southern boundary is Southport/Supply Road (NC 211) moving west to the intersection of Clemmons Rd SE (SR 1505). Zone boundary on the west is along Clemmons Rd SE (SR 1505) and (SR 1504). Boundary line moves north along a line from the intersection of Clemmons Rd SE (SR 1504/1505) and Gilbert Rd SE (SR 1501) to the end of Albright Rd SE (SR 1508). Boundary follows Albright Rd (SE SR 1508) and Midway Rd SE (SR 1500) and Old Ocean Hwy (US 17) to the southern Bolivia town limit. Zone includes	SR 1500 north (Midway Rd. SE), Business 17 north (Old Ocean Hwy.), SR 1401 (Galloway Rd. SE), US 17 bypass south, NC 130 west.	North Brunswick High School
В	Bordered on the north and east by Southport/Supply Road (NC 211) and North Howe Street (NC 87/211) to the end of the road in Southport; on the south along the north shore of the Intracoastal Waterway; west by Long Beach Road (NC 133). This zone includes those portions of Southport SOUTH of Howe Street.	NC 87 north, NC 133 bypass north, SR 1437 (Old Fayette- ville Rd.) west.	North Brunswick High School	G	Boiling Spring Lakes SOUTHWEST of NC 87.  Bordered on the north by Funston Road (SR 1518); on the east by the Sunny Point Railroad and NC 133; and on the west by NC 87. Zone includes Boiling Spring Lakes BETWEEN NC 87 and the Sunny Point Railroad.	NC 87 north, US 17 bypass north, Lanvale Rd. north, SR 1437 (Old Fayetteville	North Brunswick High School
C	The northern boundary follows the north shore of the Intracoastal Waterway from Long Beach Road (NC 133) to the end of Southport/Supply Road (NC 211) in Southport; then south along the western side of Battery Island to the N.C. Baptist Assembly east shore (eastern tip of Oak Island). The zone boundary moves around the N.C. Baptist Assembly east shore (eastern end of Oak Island) to meet the Atlantic Ocean. The southern border is the Atlantic Ocean coastline (Caswell Beach) to the intersection of Long Beach Rd/Country Club Dr (NC 133) and Jones Street. The western boundary moves north on Long Beach Rd/Country Club Dr (NC 133). This	NC 211 west, US 17 bypass south, NC 130 west.	West Brunswick High School	H	Bordered on the north by a line extending east from the intersection of Funston Road (SR 1518) and Daws Creek Road (SR 1521) along Daws Creek Road (SR 1521) to NC 133 about one mile south of Pinelevel; on the east and south by NC 133 to the intersection of NC 133 and the Sunny Point Railroad; and on the west by the Sunny Point Railroad. The zone includes Girl	NC 87 north, US 17 bypass north, Lanvale Rd. north, SR 1437 (Old Fayetteville Rd.) west.	North Brunswick High School
	zone includes those portions of Oak Island EAST of Long Beach Rd/ Country Club Dr (NC 133) along Caswell Beach Road – Commu- nity of Caswell Beach & the N.C. Baptist Assembly.				Scout Camp Pretty Pond.  Bordered on the north by a line extending east from the	NC 133 north,	North Brunswick
D	The northern boundary follows the north shore of the Intracoastal Waterway from the western end of Sheep Island to NC 133 (Long Beach Road). The eastern boundary follows NC 133 (Long Beach Road) to the coast (at Jones Street) on the Atlantic Ocean. The southern boundary follows the coast on the Atlantic Ocean to Lockwood Folly Inlet on the west. The boundary turns north toward the western end of Sheep Island. This zone includes those portions of Oak Island WEST of NC 133 (Long Beach Road) and the Town of Oak Island (formerly communities of Long Beach & Yaupon Beach).	NC 211 west, US 17 bypass south, NC 130 west.	West Brunswick High School	J	intersection of Daws Creek Road (SR 1521) and NC 133 to the Brunswick/New Hanover county line (centered in the Cape Fear River) just south of Campbell Island. The zone is bordered on the east by the Brunswick/New Hanover county line (centered in the Cape Fear River) moving south to the north end of Snow Marsh Island and the southern boundary of Sunny Point Military Ocean Terminal. The zone boundary moves west following the southern boundary of Sunny Point Military Ocean Terminal to the intersection with NC 133 and NC 87, and is bordered on the west by NC 133. The zone includes the Sunny Point Military Ocean Terminal, Orton Plantation and	SR 1437 (Old Fayetteville Rd.) west.	High School
E	Bordered on the north by Southport/Supply Road (NC 211); and on the east by the Long Beach Road (NC 133) to the Intracoastal Waterway. The southern boundary follows the north shore of the Intracoastal Waterway west to the intersection of Sunset Harbor Road (SR 1112) and Lockwood Folly Rd SE. The zone boundary turns north on Sunset Harbor Road (SR 1112) to intersect with Southport/Supply Road (NC 211).	NC 211 west, US 17 bypass south, NC 130 west.	West Brunswick High School		Old Brunswick Town		

**Evacuation Routes and Shelters** 

#### **Evacuation Routes and Shelters**

Zone	Description of zone	Evacuation routes	Evacuation shelter
K	Bordered on the north along a line from the New Hanover/ Brunswick county line intersection (centered in the Cape Fear River) along Sedgley Dr to West Telfair Circle. Along West Telfair Circle to Telfair Drive and Telfair Court. From Telfair Court to Ocracoke Drive, extending east across US 421 South Seabreeze Rd to the coast on the Atlantic Ocean. The eastern boundary moves south along the Atlantic Ocean coast to Ocean Boulevard. The boundary moves west along Ocean Boulevard to the intersection of the New Hanover/Brunswick county line (centered in the Cape Fear River). The New Hanover/Brunswick county line (centered in the Cape Fear River) forms the western boundary of this zone. The zone includes Sea Breeze, Carolina Beach, and Carolina Beach State Park.	Dow Rd., US 421 north, NC 132 north.	Trask Coliseum at UNC-W
L	Bordered on the north along a line from the New Hanover/ Brunswick county line intersection (centered in the Cape Fear River) along Ocean Boulevard across US 421 to the coast on the Atlantic Ocean. The eastern boundary moves south along the Atlantic Ocean coast to the New Hanover/Brunswick county line (Corncake Inlet area). The boundary turns northwest toward the Ft. Fisher/Southport ferry landing and continues out into the Cape Fear River to intersect the New Hanover/Brunswick county line. The New Hanover/Brunswick county line (centered in the Cape Fear River) forms the western boundary of this zone. The zone includes Kure Beach, Ft. Fisher and Federal Point.	Dow Rd., US 421 north, NC 132 north.	Trask Coliseum at UNC-W
M	The northern boundary is along a line from the intersection of the New Hanover/Brunswick county line (centered in the Cape Fear River north of Snows Marsh) moving southeast to the Ft. Fisher/Southport ferry landing and following the New Hanover/Brunswick county line out to the coast on the Atlantic Ocean (Corncake Inlet area). The eastern boundary moves south along the Atlantic Ocean coast to a point east of the end of Cape Creek. The southern boundary turns west along Cape Creek to the mouth of Cape and Bay Creeks and across the Cape Fear River to the northern shore of Oak Island at the N.C. Baptist Assembly Grounds. The western boundary moves north centered in the Cape Fear River to the intersection of the New Hanover/Brunswick county line (north of Snow Marsh). The zone includes Zeke and Striking Islands.	NC 87 north, NC 133 north, SR 1437 (Old Fayetteville Rd.) west.	North Brunswick High School
N	This zone is comprised of Bald Head Island. The northern border is from the mouth of Cape and Bay Creeks along Cape Creek with the boundary extending to the east to meet the Atlantic Ocean once Cape Creek ends. The eastern boundary then moves along the coast with the Atlantic Ocean on the east and south and then northwest until it meets the Cape Fear River. The boundary then moves across the Cape Fear River to the southern shore of Oak Island at the N.C. Baptist Assembly Grounds. It turns north along the eastern end of Oak Island, northern shore	NC 87 north, NC 133 north, SR 1437 (Old Fayetteville Rd.) west.	North Brunswick High School

of Oak Island and back across the Cape Fear River to the mouth

of Cape and Bay Creeks.

School and location	Zone on map	Relocation school*
Avant Childcare	B	Bolivia Elementary School
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only)
Brunswick Christian Academy	A	Bolivia Elementary School
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only)
Carolina Beach Elementary Scho	ool L	Murray Middle School
(Carolina Beach)	(New Hanover County)	(Wilmington) (Pick-up point only)
Childcare Network	A	Bolivia Elementary School
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only)
Kids World	B	Bolivia Elementary School
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only)
Kids World Learning Center	E	Bolivia Elementary School
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only)
L & L Montessori Preschool	B	Bolivia Elementary School
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only
Learn & Play	<b>G</b>	Bolivia Elementary Schoo
(Boiling Springs)	(Brunswick County)	(Bolivia) (Pick-up point only
Little Sandpipers II (Southport)	B (Brunswick County)	Little Sandpipers (Supply) (Pick-up point only
Sharon's Childcare	D	Bolivia Elementary Schoo
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only
South Brunswick High School (Boiling Spring Lakes)	C (Brunswick County)	Brunswick Academy (Supply) 0.5 miles south of Brunswick Community College (Pick-up point only
South Brunswick Middle School (Boiling Spring Lakes)	<b>G</b> (Brunswick County)	Leland Middle Schoo (Leland) 0.5 miles south of N. Brunswick High Schoo (Pick-up point only
Southport Baptist Church Presch	nool A	Bolivia Elementary Schoo
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only
Southport Christian School	A	Bolivia Elementary Schoo
(Southport)	(Brunswick County)	(Bolivia) (Pick-up point only
Southport Elementary School	B	Supply Elementary Schoo
(Southport)	(Brunswick County)	(Supply) (Pick-up point only

\*Current as of January 2012

#### Relocation Schools for Licensed Day Care Centers and Schools

If there is an evacuation while children are in school, DO NOT GO TO THEIR SCHOOL. Schoolchildren within the 10-mile emergency planning zone (EPZ) will be taken by school officials to one of the relocation schools listed in this chart. Schoolchildren who live in the 10-mile EPZ and attend a school outside the EPZ will be kept at their schools by school officials until they are picked up by their parents.

Look at the chart in the column under "School & Location" and find your child's school. The next column over shows the zone on the map in which the school is located. The last column lists the relocation school for each school in the 10-mile area around the plant. When you have determined the designated relocation school for your child's school, you may do one of the following:

- 1. You may pick up your child at the relocation school and go and stay at the evacuation shelter for your zone.
- 2. You may pick up your child at the relocation school and go and stay somewhere other than the evacuation shelter, as long as you are 10 miles from the plant.

Your child will be cared for at the relocation school by school and county officials until you arrive.

# **Brunswick Plant Construction**

The Brunswick Plant is constructed with thick layers of concrete and steel, backed up by multiple safety systems. Its sturdy structure is built to withstand hurricanes, earthquakes, tornadoes and other tremendous forces.

#### **Growl Test Dates for 2012**

01/11/2012	10 a.m.
04/11/2012	10 a.m.
07/11/2012	10 a.m.
10/10/2012	10 a.m.

# Full-Volume Test Date for 2012

11/14/2012 10 a.m.

#### For More Information

If you have questions about any of the safety information you have read in this brochure, you can call or write one of the following offices:

Brunswick County Emergency Services
Emergency Management Agency
3325 Old Ocean Highway
P.O. Box 249
Bolivia, NC 28422

1.910.253.2565
1.910.253.7454
or 1.800.522.2366
(NC only)

New Hanover County 1.910.798.6900 Department of Emergency Management

230 Government Center Drive Suite 1115 Wilmington, NC 28403

www.brunswickes.com

www.nhcgov.com/pages/emergencymanagement.aspx

N.C. Emergency Management 1.919.733.3300 State Emergency Operations Center 1.800.858.0368 4713 Mail Service Center Raleigh, NC 27699-4713

Brunswick Plant 1.910.457.2900 Corporate Communications

U.S. Coast Guard Group 1.252.247.4570 P.O. Box 237

N.C. State Crime Control & Public Safety

#### **The Brunswick Plant**

Atlantic Beach, NC 28512-0237

nccrimecontrol.org

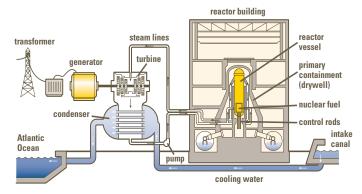
The Brunswick Nuclear Plant has two boiling-water reactors that generate 1,875 megawatts of electricity, and is a vital part of the mix of resources Progress Energy uses to meet the needs of 1.5 million customers in the Carolinas. Each of the Brunswick reactors is refueled once every 24 months, usually in the spring when the demand for electricity is relatively low. The power plant uses uranium as fuel to heat water, changing it to steam (see diagram on page 13). Water is pumped through the reactor core where a controlled nuclear reaction releases heat. The water inside the reactor vessel boils into superheated steam, which is directed against turbine blades to make the turbine and electric generator spin at 1,800 revolutions per minute, producing electricity.

After passing through the turbine, the steam passes through a condenser where it is cooled by water drawn from the Cape Fear River, converting it back into a liquid state that is then reheated and turned to steam again. This plant water does not mix with the river water and is contained within the reactor and turbine buildings.

The foam present in the outflow canal is formed just like ocean waves create beach foam. At the Brunswick Plant, 1 million gallons of water per minute are pumped from the Cape Fear River where it passes through the plant's cooling system and then drops approximately 15 feet to the head of the outflow canal. It is the churning action, like a wave crashing on the beach, that creates the foam. The lower Cape Fear River contains naturally high levels of sediment that causes the brown appearance of the foam floating in the outflow canal.

After the river water exits the plant, it flows down a five and a half mile outflow canal and is pumped 2,000 feet into the Atlantic Ocean, where tides and currents rapidly dissipate the warmed water.

Due to world events, people sometimes have questions about security. The Brunswick Plant has always had 24-hour security personnel and protection. We have also made significant enhancements in security since Sept. 11, 2001, including adding more physical barriers and technology, hiring additional armed security officers, and improving our collaboration with the U.S. military, FBI, Department of Homeland Security, and state/local law enforcement. The Brunswick Plant is considered one of the safest and most secure industrial sites in the country.



For more information about the Brunswick Plant and nuclear power, visit progress-energy.com.

#### **Nuclear Energy-Related Websites**

nei.org	energy.gov
nrc.gov	howstuffworks.com
aboutnuclear.org	iaea.org
ans ora	

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= Low-Volume/Growl Test Dates
= Full-Volume Siren Test Date
Siren test dates subject to change.

#### **Siren Tests**

There are three ways the sirens are tested:

#### Silent test

A silent signal is sent to each siren every week. The sirens will sound at an inaudible frequency during this test.

#### Low-volume "growl" test

The sirens will sound for a few (5-10) seconds. Low-volume tests are conducted every three months. Progress Energy will provide information about the test through the local news media.

#### Full-volume test

All the sirens will sound at the same time for three-minute intervals. A full-volume test is conducted once a year. Progress Energy will provide information about the test through the local news media and will mail postcards to the public living within the 10-mile EPZ.

Occasionally a siren may accidentally sound because of lightning strikes or other problems. If you hear a siren and have a question, call your local county emergency management office listed on page 12.

# Children in School

Your Quick Reference

the Brunswick Plant

Please take a minute and complete the

information below so you will have it

in an emergency.

information is:

I live is:

I live is:

My zone on the map is:

My local radio station is:

My local television station with

The evacuation shelter for the zone where

The evacuation route for the zone where

The relocation school(s) for my child

(children) is (are):

of Safety Information for

If your children attend schools within the 10-mile emergency planning zone, please do not try to pick them up. The schools will follow their own evacuation procedures. See page 11 for more information about school relocations.



#### **For More Information**

If you need help during an evacuation, call the number for the county you live in:

Brunswick County 1.910.253.2565 1.910.253.7454

New Hanover County 1.910.798.6900

#### **Radio Stations**

These radio stations will participate in Emergency Alert System (EAS) announcements in the event of an emergency.

If you hear several three-minute-long siren blasts, tune to one of the following stations for information:

97.3 FM WMNX

98.7 FM WRMR (Spanish language)

Other radio and television stations may also broadcast information and instructions in an emergency.

#### **U.S. Coast Guard Radio**

<u>Band</u>	<u>Channel</u>	<u>Frequency</u>
VHF-FM	16	156.8 MHz
HF		2182.0 kHz

#### **Siren Test**

Sirens are tested three ways. See the calendar for dates when the low-volume and full-volume tests of the sirens will be conducted.

# Inadvertent Siren Activation

Occasionally a siren may accidentally sound because of lightning strikes or other problems. If you hear a siren or have a question, call your local county emergency management office (listed on page 12) and/or tune to EAS stations listed above.

# Activation Due to Plant Conditions

Activation due to plant conditions will generate an EAS message.



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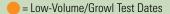
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# **Progress Energy**

Brunswick Plant Emergency Preparedness PO Box 10429 Southport, NC 28461