

BRUNSWICK Nuclear Plant

Dear Neighbor:

At Progress Energy, we are committed to conducting our operations in a manner that protects the health and safety of the public and to being a good and responsible neighbor. With that in mind, I want to bring a recent development to your attention and let you know of our corrective actions. Our environmental monitoring program recently identified tritium in standing water in two manholes at the Brunswick Nuclear Plant. I'm enclosing a fact sheet to provide you more information about tritium.

A stabilization pond on our plant property (see enclosed diagram) is the source of the tritium. We routinely place water with small amounts of tritium in this bermed, elevated pond as normal operating procedure – a process approved through our federal licensing program. After finding the tritium in the manholes, we installed monitoring wells and collected groundwater samples around the stabilization pond – and have found that some tritium is seeping outside the perimeter of the pond. **The tritium in the areas identified does not pose a health or safety hazard to the public. Tests from drinking water wells on site have shown no traces of tritium.** ?

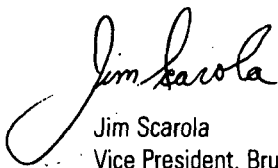
We immediately took actions to stop the flow of tritium into the pond. We also shared information about this development with the Nuclear Regulatory Commission (NRC), N.C. environmental and health officials, local officials in Brunswick County and our plant employees.

We are currently conducting a thorough evaluation. To confirm that this is an isolated situation, we will be drilling additional test wells around the pond for the next several weeks. These wells will enable us to monitor for tritium and to take appropriate actions, as needed, to ensure we remain environmentally sound with our operations. It will take a few weeks for us to drill and test the new wells.

Although we will not have complete information until the current drilling and testing is complete in mid-July, we want to make ourselves available to you now to answer your questions. **I would like to invite you to an open house (6 p.m.) and information session (7 p.m.) on Tuesday, June 19, at the Progress Energy Media Center, located behind the Brunswick Visitors Center on Hwy 87, two miles north of Southport.** We will have company personnel as well as geologic and hydrology experts to answer your questions and update you on our testing.

We value you as a neighbor and hope you will be able to join us. If you are unable to attend the meeting and would like information, please call Lauri Turpin at 457.2900 to discuss this issue.

Sincerely,



Jim Scarola
Vice President, Brunswick Nuclear Plant



Facts about tritium

What is tritium?

Tritium (H_3) is a radioactive isotope of the element hydrogen (H). Tritium occurs naturally in the environment in very low concentrations. Most tritium in the environment is in the form of tritiated water, which easily disperses in the atmosphere, water bodies, soil and rock. Tritium is a very common substance and is used in many commercial applications. It is used in various self-luminescent devices, such as exit signs in buildings, aircraft dials, gauges, luminous paints and wristwatches. Tritium is also used in life science research.

Where does tritium come from?

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced as a byproduct in nuclear power production.

What are the properties of tritium?

Although tritium can be found in several forms, its most common form is in water. Like regular hydrogen, tritium reacts with oxygen to form water. Tritium replaces one of the stable hydrogens in the water molecule, H_2O , and is called tritiated water. Like H_2O , tritiated water is colorless and odorless. Tritium has a half-life of 12.3 years and emits a very low level of energy.

How do people come in contact with tritium?

People are exposed to small amounts of tritium every day, because it is commonly found in the environment and in the food chain. People who live near or work in nuclear plants or other similar facilities may have increased exposure. People working in research laboratories may also come in contact with tritium. All nuclear power plants release tritium in a controlled, NRC-approved procedure.

How does tritium get into the body?

Tritium primarily enters the body when people swallow tritiated water. People may also inhale tritium as a gas in the air and absorb it through their skin.

What does tritium do once it gets into the body?

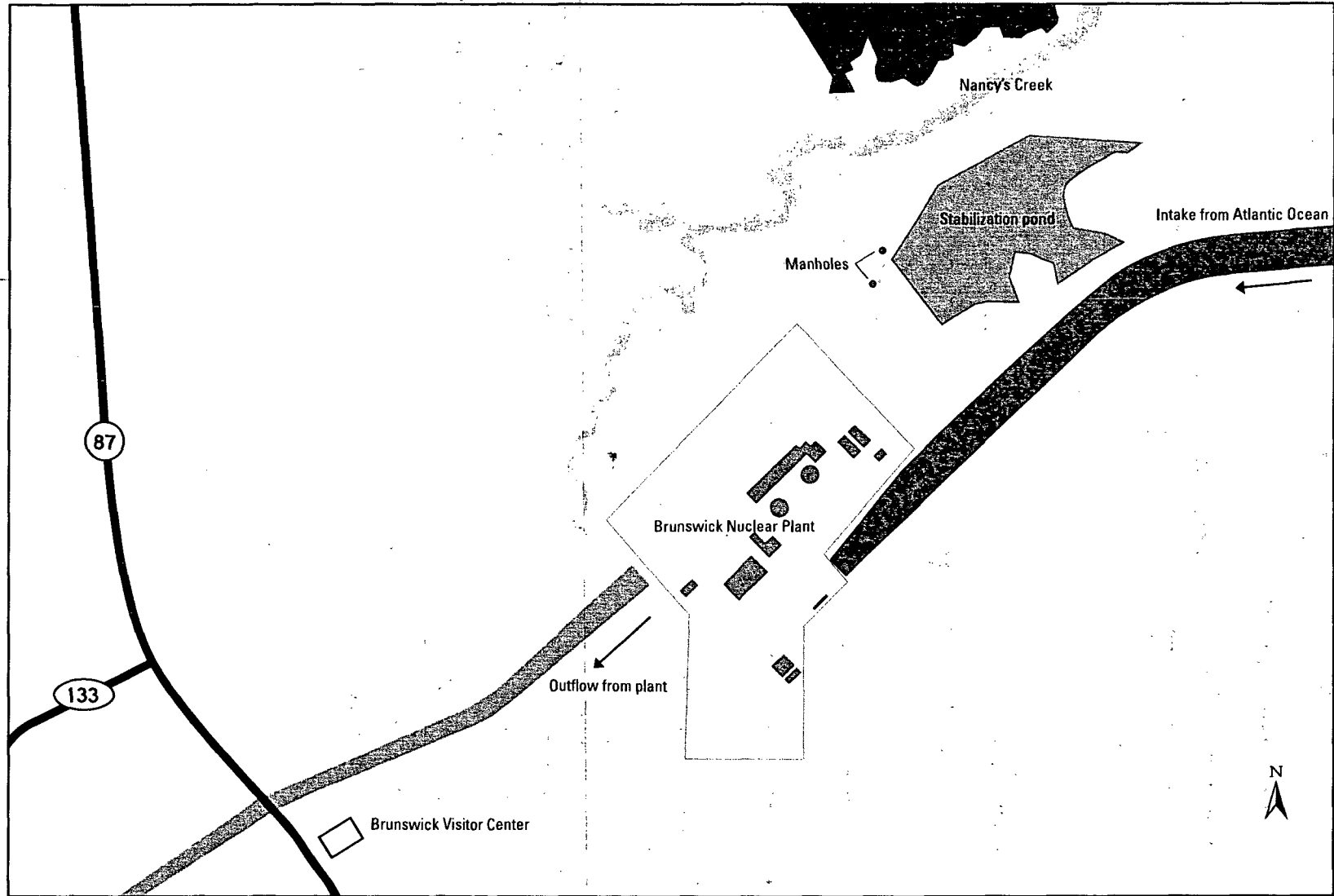
Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted through the urine within a month or so after ingestion. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period.

How does tritium affect people's health?

As with all ionizing radiation, exposure to high levels of tritium can increase the risk of developing cancer. Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly. Since tritium is almost always found as water, it goes directly into soft tissues and organs. The associated dose to these tissues are generally uniform and dependent on the tissues' water content.

Is there a medical test to determine exposure to tritium?

Urinalysis is the easiest method for determining exposure to tritium. Because tritium is found naturally in most water supplies at very low concentrations, levels in drinking water would be measured to determine whether the tritium levels exceed the levels present in the body.



Site map of stabilization pond location