Facts about Safety and Emergency Planning
Peach Bottom Atomic Power Station
October 2011

This sheet provides facts on safety and security procedures and systems specifically related to the circumstances present at the Japan nuclear reactors. This document is not meant to be a comprehensive review of all safety and security procedures. It is meant to show Exelon Nuclear's commitment to the highest safety standards at all its facilities.

Peach Bottom is protected against earthquakes

- Peach Bottom is engineered to withstand earthquakes with ground acceleration at the site of 0.12 g's, which correlates to about 6.1 on the Richter scale *with the epicenter at the facility site.* This translates to larger earthquakes with epicenters away from the facility (the Richter scale measures an earthquake only at its epicenter). This is above any historical risk data for the area.
- Safety and security systems and components vital to Peach Bottom's operations are housed in reinforced concrete structures and would allow these systems to remain functional in the event of an earthquake, tornado, flood, or an accident internal to the plant.
- Protected safety and security systems include emergency core cooling, emergency diesel generators, used-fuel pools and diesel-fuel storage tanks.

Peach Bottom is protected against floods

- Tsunamis are not a threat to Peach Bottom because of its location, but the facility is hardened against floods and other natural disasters.
- Peach Bottom's ground elevation is 116 feet above sea level. Peach Bottom has a certified maximum permissible flood threshold that is 26.5 feet above the Susquehanna River elevation. Even if flood waters rose to this level, the facility can safely shut down through normal operational methods.
- Peach Bottom has multiple ways to protect underground or ground-level equipment, including water-tight doors and special engineered flood barriers that prevent water intrusion to areas below maximum flood elevation that hold vital plant equipment.

Peach Bottom is protected against power loss

- The facility gets electricity from two independent transmission lines that feed into two independent power transformers.
- In a loss of offsite power, safe and secure shutdown and a continuous supply of electricity are ensured through separate backup power supply systems. These include emergency diesel generators, battery banks and a direct transmission line to the Conowingo Hydroelectric Dam.
- Peach Bottom has four locomotive-sized emergency diesel generators available to operate immediately. The generators sit 18.5 feet above the river level and are located in separate rooms enclosed in a reinforced flood-proofed building designed for earthquakes, flooding, tornados and other potential disasters.
- Peach Bottom has four underground diesel fuel tanks that can hold 124,000 gallons, enough diesel fuel to run emergency generators 24 hours a day for seven days. Fuel pipes run underground to the emergency diesel generator room. Peach Bottom has contingency plans in place for additional fuel deliveries in a prolonged period of offsite power loss.
- Each Peach Bottom unit has two banks of large batteries that can run safety-related equipment for up to eight hours with no other power sources available.
- Emergency diesel generators are tested monthly; batteries are inspected weekly and tested during refueling outages. The backup transmission line to Conowingo is tested every two years.

Peach Bottom is protected against hydrogen build up

- Peach Bottom has developed systems and strategies that minimize hydrogen buildup, believed to be the source of explosions at the Japanese Fukushima facilities.
- The containment vessel at Peach Bottom has a hardened vent pipe installed from the primary containment to the outer atmosphere that allows for venting of hydrogen and protection against explosions.
- Peach Bottom's containment structure has an atmosphere of almost pure nitrogen to prevent hydrogen from combusting even if it were to accumulate. This inert atmosphere is maintained by a large-volume liquid nitrogen system which operates without electricity.

Peach Bottom water resources

- Peach Bottom has nine independent methods of safely injecting water into the reactor if needed.
- The facility has 19 independent methods for safely cooling the reactor and used-fuel pools if necessary.
- An elevated, independent diesel-driven pump can deliver 500 gallons of water per minute into the used-fuel pool if all other power sources fail.
- The fire suppression system is supplied by two emergency pumps, one of them diesel powered, and does not require electricity to operate.

Peach Bottom has extensive emergency plans

- Peach Bottom has extensive procedures for responding to potential emergencies that undergo drills multiple times annually.
- Facility operators, maintenance personnel, engineers, and the emergency planning workforce verify their qualifications on a daily basis.
- Peach Bottom and all U.S.nuclear facilities have “Severe Accident Mitigation Guidelines” that prescribe actions and require pre-staged equipment (portable diesel generators and portable power packs) beyond normal emergency operating procedures to address severe challenges to the reactor core.
- Station operators are regularly trained in control-room simulators to respond to severe natural
- disasters that exceed the facility’s design basis.
- Station emergency drills are overseen by the Nuclear Regulatory Commission (NRC) and the Federal Emergency Management Agency (FEMA), with participation of state and local emergency agencies including the Pennsylvania Emergency Management Agency (PEMA).
- Peach Bottom conducts a multiple-station emergency drill each year, and has an NRC-evaluated drill every two years.

Peach Bottom used fuel facts

- Peach Bottom’s two used-fuel pools and dry-cask storage facility are engineered to withstand forces greater than the largest earthquake ever seen in the region.
- The used-fuel pools are elevated 86 feet above the normal Susquehanna River level.
- Peach Bottom has 48 dry storage casks for used fuel elevated on a cliff well above any potential flood area.

Quick facts about Peach Bottom Atomic Power Station

- Peach Bottom Atomic Power Station is a GE boiling water reactor with a modified Mark I steel and concrete containment structure. The facility began producing electricity in 1974.
- It has two nuclear reactors, providing 2,280 total net megawatts at full power. Unit 2 is licensed to operate until 2033, Unit 3 until 2034.
- The main source of cooling water for Peach Bottom is the Susquehanna River.
- Peach Bottom employs approximately 800 people with a payroll of approximately $68M.