

Safety and Security

Clean, Safe Nuclear Power at Turkey Point Units 6 & 7

Safe and Efficient Operation

Florida Power & Light Company's nuclear power plants have provided clean, safe, affordable electricity for decades, helping keep our bills the lowest in the state and our reliability among the best in the country.

Building on that record, FPL is creating the option to build two new nuclear units at our existing Turkey Point facility near Homestead, Florida. These new units, Turkey Point 6 & 7, would produce approximately 2,200 megawatts of reliable power, enough for an estimated 750,000 homes in South Florida.



FPL's number one commitment is the safe operation of all of our facilities, and we are proud of our hard-earned, 40-year record of safe nuclear operations.

Plant Security

Nuclear power plants are among the most highly protected private-sector facilities in the nation. Our plants are built with multiple security and defensive features, including:

- » Multiple back-up safety systems, and
- » Highly trained staff and security forces.

Because security threats are constantly evolving, we routinely reassess, refine, and enhance the security programs at our nuclear power plants.

For example, after the September 11, 2001 terrorist attacks on the United States, the nuclear energy industry substantially enhanced security measures, increasing security personnel significantly and establishing more stringent cyber security rules. In recent years, we have enhanced cyber security measures even further.

Members of our security forces are often former military and police members, and are required to complete rigorous training and receive re-qualification training each year.

In addition, our security personnel are regularly subject to real-world challenges of simulated "force-on-force" attacks. Experts working with the U.S. Nuclear Regulatory Commission are responsible for planning, coordinating, and assessing our response to a wide variety of simulated attacks.

Advanced Safety Design: AP1000

The reactor design chosen for Turkey Point Units 6 & 7 – the Westinghouse Advanced Passive Pressurized Water Reactor Plant (AP1000) – is unique in its use of natural forces such as gravity and convection to maintain safe operations in the highly unlikely event of an accident.

For example, it does not rely on backup sources of power; no operator actions are required for at least 72 hours to mitigate accidents and maintain core and containment cooling; and no pumps, fans, diesel generators, or other active machinery are required, except for a few simple valves that automatically trigger the passive safety systems.

Thus, even with no operator action and a complete loss of all on-site and off-site AC power, the AP1000 will safely shut down and remain cool.

The Westinghouse Advanced Passive Reactor design underwent the most thorough pre-construction licensing review ever conducted by the U.S. Nuclear Regulatory Commission.

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Highly Trained Plant Operators

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- » Licensed plant operators undergo 18 months of initial training, including classroom study and hands-on simulator experience, before they can take a comprehensive examination to earn an individual operator's license from the U.S. Nuclear Regulatory Commission (NRC).
- » Once licensed, nuclear operators spend one week out of every six weeks in training and simulator exercises throughout their entire careers, logging more training hours than airline pilots.
- » Reactor operators must complete rigorous exams and testing to renew their NRC licenses every two years.



Fast Facts

- » FPL's Turkey Point Power Plant withstood the direct impact of Category 5 Hurricane Andrew in 1992 with no damage to its nuclear systems.
- » FPL's St. Lucie nuclear power plant safely withstood Category 3 Hurricane Jeanne and Category 2 Hurricane Frances in rapid succession in 2004 with no damage to its nuclear systems.
- » The nuclear power industry has the highest security standards of any U.S. industry.

Robust Plant Design and Construction

Our nuclear power plants are designed and built to operate safely in all kinds of conditions. Our plants have been specifically built to withstand natural disasters such as hurricanes, tornadoes, earthquakes, flooding, and tidal surges.

Our nuclear plants and containment buildings have steel-reinforced concrete outer walls that are at least three feet thick, with additional concrete barriers inside. The reactor vessel itself is built of steel. Multiple safety systems with backups are in place for additional protection.

Safety Features

- » Low-risk Seismic Zone: The Turkey Point facility is located in the lowest-hazard zone for earthquakes, according to the U.S. Geological Survey (USGS).
- » Designed to Withstand Earthquakes: The new units would be designed and constructed to withstand earthquakes and other natural events stronger than ever recorded in the region.
- » Protected from Flooding: The new units would be protected from flooding by being elevated to approximately 26 feet above sea level.
- » Hurricane Preparedness: FPL procedures require that nuclear plants be shut down in advance of hurricane force winds and remain off-line until thorough operational and safety assessments are completed. FPL's nuclear plants are designed to safely withstand the impact from a Category 5 hurricane, as well as impacts from other natural disasters.

For more information on the proposed new nuclear units at Turkey Point, please visit www.FPL.com/nuclear