From FPL:  **FACT SHEET ON FLORIDA POWER & LIGHT NUCLEAR PLANTS**

**Florida Power & Light is closely monitoring the situation in Japan.**

Since the earthquake and subsequent tsunami, FPL executives have been coordinating with the Nuclear Energy Institute, the Institute of Nuclear Power Operations and the World Association of Nuclear Operators with regard to the impact of these events on the operation of the Fukushima Daiichi nuclear plant in Japan.

- At this time, all of the facts are not fully known. This is further complicated by the fact that emergency response officials in Japan are dealing with the situation at the Fukushima Daiichi nuclear plant in addition to the overall tsunami recovery efforts.
- It is important to note that because of location, the seismic activity in Japan is of a greater magnitude than what could likely happen in Florida.

**As compared to Fukushima Daiichi, Florida's reactors are of a newer design and have additional safety systems as a result.**

- The World Association of Nuclear Operators reports that the Unit 1 TEPCO Daiichi unit is an older Boiling Water Reactor (Florida has Pressurized Water Reactors only). Relative to the Japanese plant, FPL’s Florida nuclear plants have additional safety systems because of their more recent design.
- The issue in Japan deals with the complete loss of power to run decay heat removal pumps (the pumps that circulate water in order to cool the reactor core). Both of our Florida plants only require one diesel generator to fully supply the power required to meet core cooling needs. Each station has four diesel generators installed for redundancy (four at Turkey Point; Four at St. Lucie).
- In addition, unlike the Japanese plant, FPL plants have an additional, separate steam-driven cooling pump system. This steam-driven cooling system can run the plant’s cooling pumps without depending on any offsite power or the diesel generators.
- In essence this means that the FPL plants at St. Lucie and Turkey Point have multiple redundancies relative to the Fukushima Daiichi facility.

**St. Lucie and Turkey Point are designed for severe events that could impact our state.**

- FPL’s nuclear power plants at Turkey Point and St. Lucie are outside of known "high hazard" earthquake zones (as defined by United States Geological Society and the Nuclear Regulatory Commission).
- Each plant has been specially designed to withstand a variety of natural events such as earthquakes, storm surges and flooding associated with hurricanes, tornadoes and high winds without losing capability to perform their safety functions. Both are elevated to deal with the storm surge of a Category 5 hurricane (20 feet above sea level).
- Even though an event like the Japanese earthquake is unlikely, all FPL plants have had additional safety margin added to the "worst case" scenario to ensure the plants can withstand events beyond their licensing basis.

**Our nuclear plants have extensive emergency plans and rigorous operator training programs.**

- All nuclear power plants are designed for and have emergency operating procedures to address worst-case scenarios, including earthquakes, loss of core cooling, and loss of all onsite and offsite power.
- The procedures used in emergencies are part of plant operator training. Plant Operators are required to undergo knowledge and performance testing one week out of every six weeks. That training involves the use of real life responses on a plant simulator.
- For conditions warranting public evacuation, dedicated communications systems linking emergency operations centers are in place; public alert systems (sirens) are in place; and, local emergency facilities that are staffed by state and local government emergency response agencies would be fully manned.
- The plant emergency response is tested quarterly via emergency drills involving both onsite and offsite emergency response teams.
- Even though an event of this nature is unlikely in Florida, similar natural emergency conditions are routinely exercised by reactor operators and emergency response agencies in Florida.
On March 11, 2011 at 2:45pm Japan Standard Time (JST) a 9.0 magnitude earthquake hit Japan. This earthquake caused a Tsunami to hit Japan. Due to the earthquake, 11 nuclear reactors in Japan went into “scram” or automatic shutdown.

There are significant differences between the affected Japanese reactors and FP&L’s St. Lucie plant:

- The Japanese nuclear plants are a Boiled Water Reactor (BWR) designs. The St. Lucie plant is a Pressurized Water Reactor (PWR) design.

- PWR reactors have more redundancy on all safety systems and dual emergency generators for each reactor.

- PWR reactors have a separate steam-driven cooling pump system that can run the plant’s cooling pumps without depending on offsite power or the diesel generator, BWR reactors do not.

- BWRs control rods are hydraulic driven and are inserted from the bottom of the reactor. PWR reactors control rods are held in place electro-magnetically and are inserted from the top. A loss of power would release the rods. The control rods end the fission process.

- The Japanese reactors are a much older design than the St. Lucie Plant and do not have the quantity of emergency core cooling water on hand.

- In a PWR the radioactive materials are contained in one location of the system where as a BWR the radioactive materials are located throughout the system.

- Another critical safety component in PWR reactors is the hydrogen recombiner. This system takes atmospheric hydrogen inside containment and converts it into water. The Japanese BWRs involved (1st generation GE design) do not.

- The explosions in the 2 Japanese units occurred during the venting of the secondary containments pressure. The explosions were not caused by a hydrogen bubble but the atmospheric hydrogen compounded the explosion.

- Given the difference in design and FP&L’s robust high water emergency plan and the plants design to withstand earthquakes (even though there is little chance of seismic activity in St. Lucie County) a similar accident here is highly unlikely.